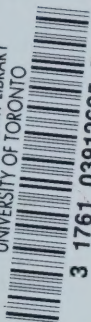


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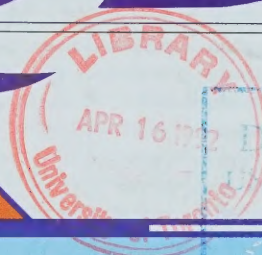
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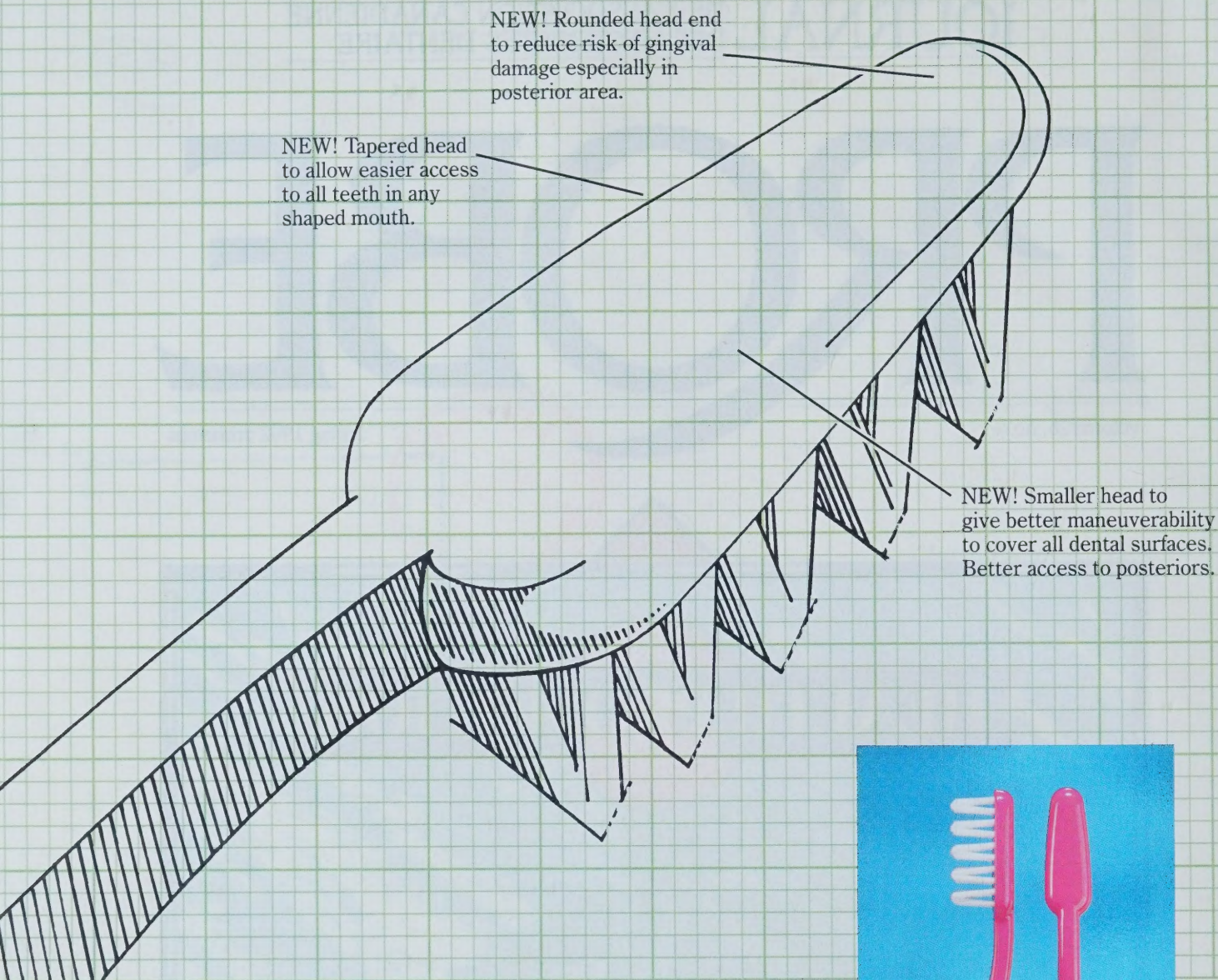
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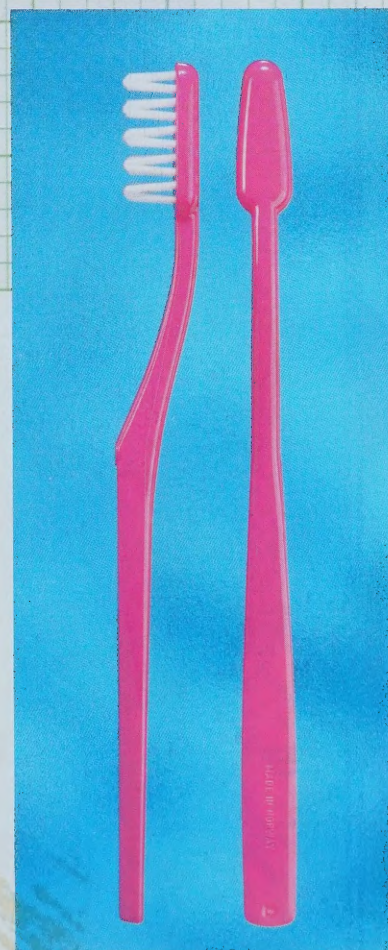


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 **HORNER**
Montréal, Canada

President's Message

Mid-term Report



Terry Mitchell

CDHA recognizes the role dental hygienists play in health promotion, and thus made Health Promotion the theme of our 1991 Annual Professional Conference. In this issue of *Probe*, you will find papers that came out of that conference. While it is true that for dental hygienists to *more easily* facilitate achieving health for all, regulations need to change, it is also true that ground work has already begun that will allow the profession of dental hygiene to take a leadership role. We already know dental hygienists have the skills and expertise to contribute toward health promotion, and as more windows of opportunities open, we will be ready to go through them.

With the restructuring of CDHA, the members of the Board of Directors became more responsible for the activities of the Association. The January Planning Session provides them with two days in which to plan for the fiscal year beginning May 1. As you can imagine, it is an intense work session. Each Council prepares a plan of "immediate" action, as well as a three-year plan, and at the end of the weekend, the Council Chair presents to the Board of Directors the activities intended to reach that council's goals. As CDHA does not have unlimited funds, Executive Council is tasked with deciding which activities can be fully funded, which can be given "start up" funds and which need more investigation. To make those decisions, Executive looks not only at the Councils' priorities but also at the goals of the Association. It is a tough job! Councils are given the opportunity to review the decisions before the Association budget for the next fiscal year is finalized. Although the Councils have not yet had a chance to see the preliminary budget, I can give you an idea of the projected activities for the Association during 1992-93.

Professional Development Council expects to have the revised Code of Ethics ratified at the Annual Session in June. It will be distributed to dental hygienists either with an issue of *Probe*, or with a membership mailing. The Code of Ethics looks very different from the previous document as it shows the progressive thinking of members of our profession. This Council also continues to provide input regarding the topics or speakers for our Professional Conferences. The forecast for future conferences is: 1993 Research Conference in Niagara Falls; 1994 Saskatoon, with suggested topic Ethics; 1995 Halifax; 1996 Banff? Professional Development Council is also working on a method of offering continuing education to members who live in Canada's more isolated localities.

Member Services Council is developing an information card, identifying member benefits, that will be sent as part of the membership drive. This Council is always investigating new ideas CDHA can offer as part of membership. One topic that seems to have surfaced a few times is that of RRSPs. Any other ideas are certainly welcome. As well as finding new benefits, this Council will also be studying our membership "stats" to try to determine target groups for future campaigns.

Practice and Regulation Council continues to develop activities designed to facilitate achieving CDHA goals pertaining to self-regulation, national certification, and greater accessibility of the Canadian public to oral health care. These goals are somewhat harder to attain as there are factors over which the dental hygiene profession does not always have control. Two more provincial associations, have applied or are applying very soon to their respective provincial governments for legislative acts that will make dental hygienists self-regulating. In addition, this Council is drafting a statement concerning the supervision of dental hygiene care and a discussion paper that is intended to address the human resource issue. As I alluded to in my previous message, the supply and demand for dental hygienists is a complicated issue.

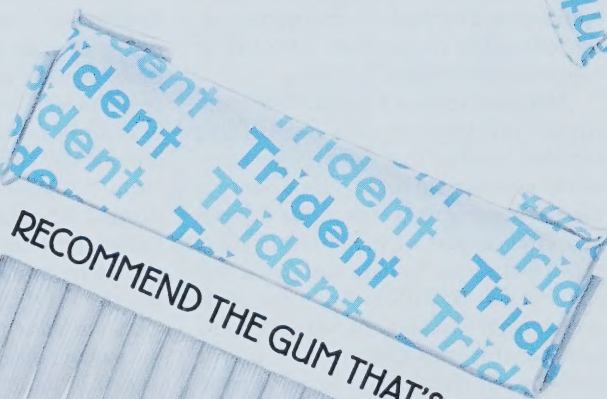
Public Relations Council has a dynamite campaign planned for this and future National Dental Hygiene Campaigns. CDHA has been able to purchase a poster and fact card series from

the British Columbia Ministry of Health. "**Behind every great smile**" was designed by a dental hygienist and will be the theme of the campaign. Materials will be available for provincial campaign co-ordinators well in advance. In fact, it is expected that T-shirts and sweatshirts will be available in Victoria! The Council also wishes to pursue a calendar with pictures of dental hygienists in "healthy" activities such as running or swimming, and an insert of the same dental hygienists in practice — be it clinical, teaching or research. Remember one goal of this Council is to make the public aware of the dental hygiene profession.

Plans are well underway for our Professional Conference in June. By now you've seen the program and registration form. It can't help but be another success. I'm sure you are planning to attend if at all possible. Let me invite you to arrive a day early. On Saturday June 6, from 9 a.m. to 3 p.m., the CDHA Annual Board Meeting will be held. I realize the word *meeting* might frighten you away, but if offers you a chance to see the CDHA Directors in action. Come to meet the people, put a face to the name. You are welcome to observe all or part of the meeting. After all, it is the Board of Directors of your Association: come and observe as we direct the future of your profession. ☺

CDHA Board of Directors 1992

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Photo compliments of Tourism Victoria

New News for Older Smiles
3rd Annual CDHA Professional Conference —
The Dental Health Behaviour and Needs of the Older Adult
Victoria, BC — June 6-8, 1992
Victoria Conference Centre

Pre-Conference

The annual session of CDHA Board of Directors will be held June 6, 1992. Observers welcome.

Conference

The Dental Health Behaviour and Needs of the Older Adult will be discussed under the topics of Quality of Life and Aging • Needs Assessment, A Seniors' Perspective • Epidemiology • Root Caries • Drugs • Behavioural Techniques • Nutrition • Implants • Focus group workshops • Periodontology.

Our social will be a Potlatch — a Native Feast in a Big House with traditional native entertainment.

Air transportation will be offered through Marlin Travel who will be offering discount fares.

Accommodation Hotel Grand Pacific

Post-conference tours will be offered by:

Marlin Travel — three- and five-day tours (Vancouver and Whistler)

Advantage Travel — Vancouver Island Tour (Seattle and Hawaii)

More detailed information and contact numbers are given in the special **Conference and Registration** edition of the **March Explorer**. For additional copies, or information, please contact CDHA at: 1-800-267-5235



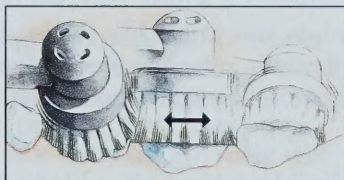
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Dental Hygiene Registration Requirements — Waiver of BC Board Dental Hygiene Examination

Registration requirements for dental hygienists who are graduates of out-of-province programs have been modified. For a period of three years, effective January 1, 1992, the College of Dental Surgeons of British Columbia is waiving the BC Board Dental Hygiene Examination (written and clinical), for the following applicants who:

- a) are graduates of a dental hygiene program accredited by either the Canadian Dental Association or the American Dental Association;

- b) are **not** currently considered to be an unsuccessful candidate in any Board Examination in the province or state of graduation;

- c) can provide a letter of good standing from the licensing jurisdiction in which they are currently, or last licensed and/or are graduates within the previous year.

The College will review this policy annually, with the intention of either continuing the existing waiver, modifying it, or confirming its expiration in 1994. Any future changes will be

publicized to the profession.

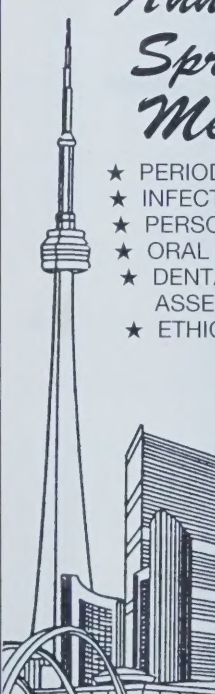
Dental hygienists who will be particularly affected by this amendment are those having graduated more than five years ago — until now, they were required to successfully complete the BC Board Examination requirements.

Those hygienists eligible, and interested in registering with the College of Dental Surgeons of BC, may wish to contact the College direct, at 500 - 1765 West 8th Avenue, Vancouver, BC V6J 5C6, for an Application for Registration Package. ☛

★ ★ ★ ★

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- ★ INFECTION CONTROL
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- ★ ORAL PATHOLOGY
- ★ DENTAL HYGIENE ASSESSMENT
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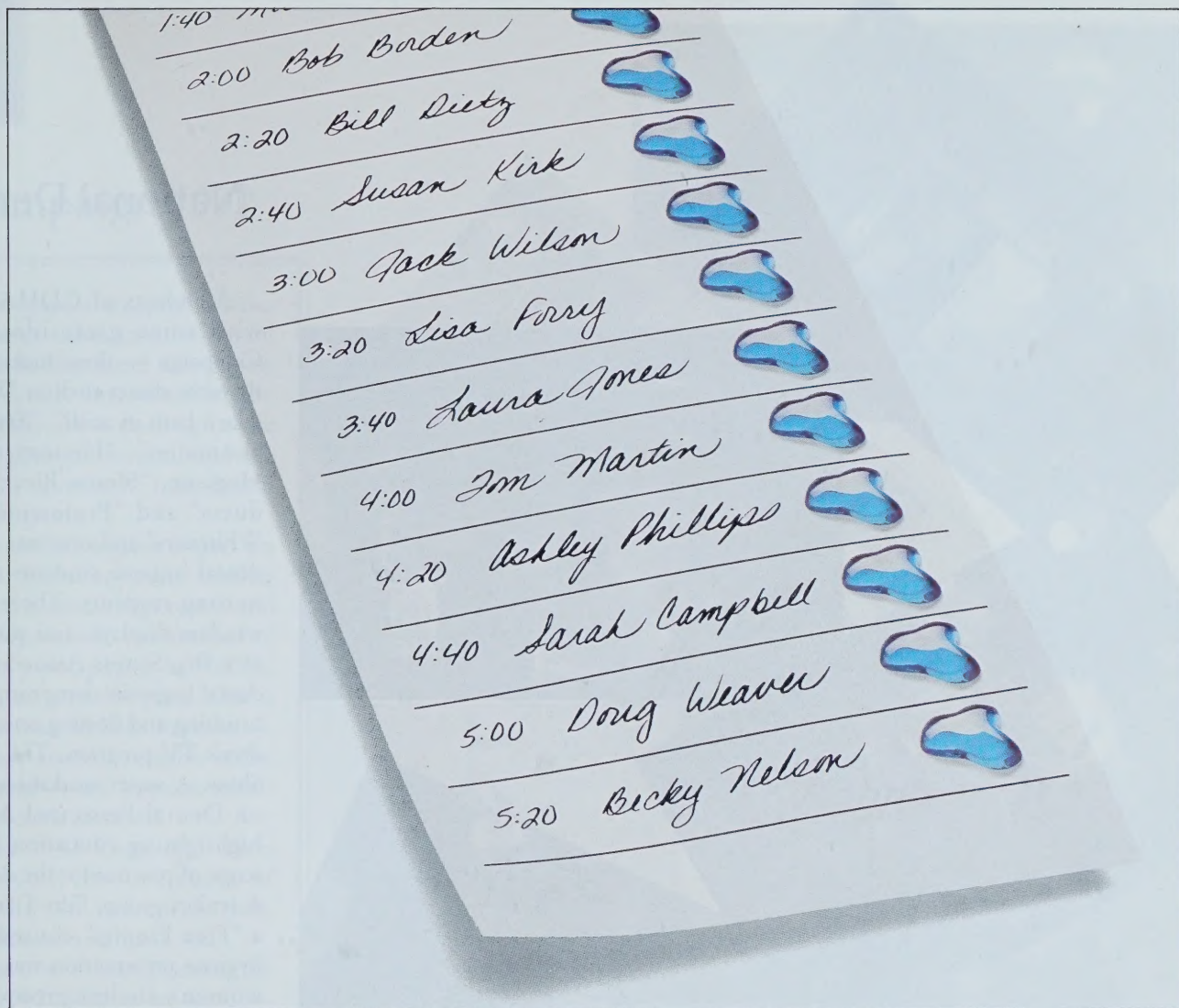


12TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE The Hague July 1 to July 4, 1992

KLM Royal Dutch Airlines is the official Symposium airline carrier — and special conference rates have been arranged by Dale Scanlan RDH, through MI Travel Inc. Examples are: Toronto \$765 — Vancouver \$1,005 — to Amsterdam return, plus \$44 departure tax. If after or before the Symposium you would like to visit **London, Paris, or Brussels**, these fares will enable you to visit one of these cities with **NO INCREASE** in the airfare. These special rates offer excellent value to our delegates.

Pre- and post-conference tours have been arranged to co-ordinate with the Symposium. Delegates may take advantage of these tours and still participate in **ALL** Symposium events.

To avoid any disappointment, we suggest that you reserve **NOW**. Seats and prices are guaranteed for reservations received by Friday April 17, 1992. These special prices may be available after April 17, depending upon availability. For further details on Tour A and/or Tour B (described in the Winter 1991 Probe), contact Marlin Travel, 251 Laurier Avenue West, Ottawa, Ontario K1P 5J6, Canada. Fax: 613-234-5293, or call collect: 613-563-4548. Or you can reach Dale Scanlan at CDHA: 1-800-267-5235.



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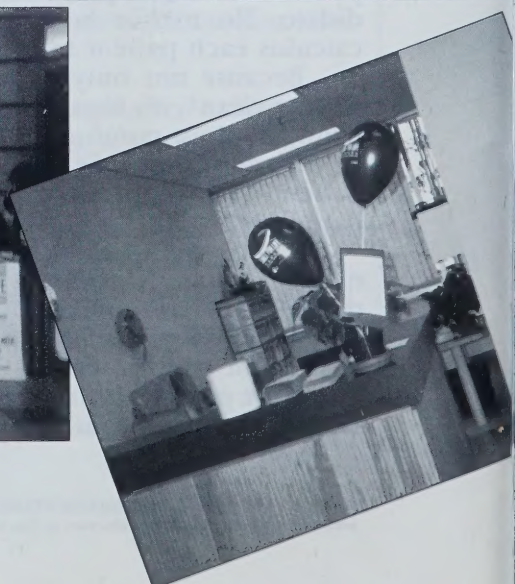
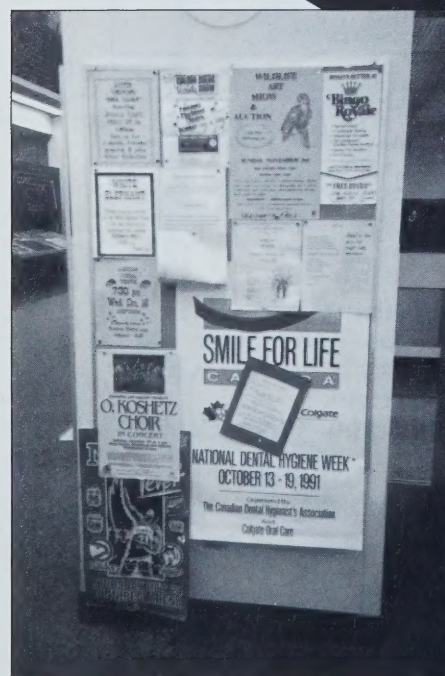
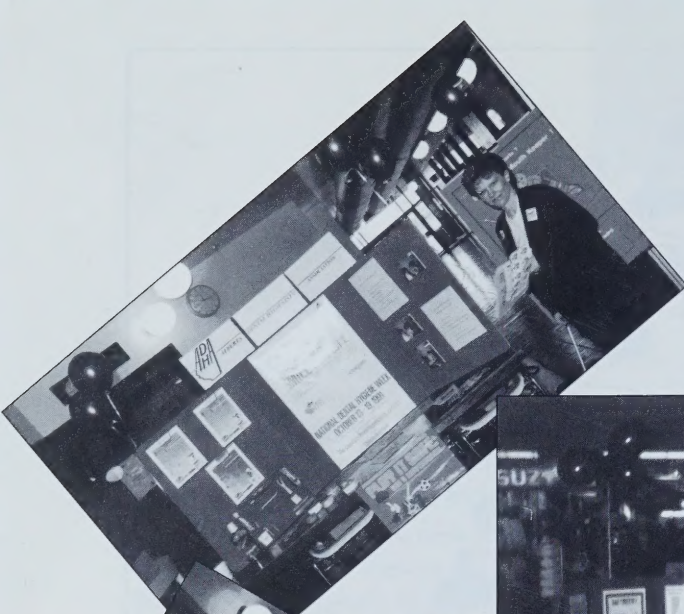
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National Dental Hy

Members of CDHA came up with some great ideas for the Campaign — these included fantastic table clinics such as “Would you take a bath in acid?”, “Eruption and anomalies”, “History of Dental Hygiene”, “Home Bleaching Products” and “Professional Tooth Whiteners”, and one was put on by dental hygiene students targeted at nursing students. There were also window displays, and presentations at a Big Sisters Association. One dental hygienist demonstrated toothbrushing and flossing on a local children’s TV program, The Buck Shot Show. A super workshop was done on Dental Personnel Awareness, highlighting education levels and scope of practice for the dental team. A seniors group, Fifty-Five Plus, had a “Free Prophyl” contest. An oral hygiene presentation was given to a women’s shelter group home. A group of hygienists promoted oral health to a local business, and visited a farmers’ market — which generated great radio coverage.

It was one of the best campaigns for media coverage! This included radio announcements, public service announcements, TV shows, and



ene Campaign 1991

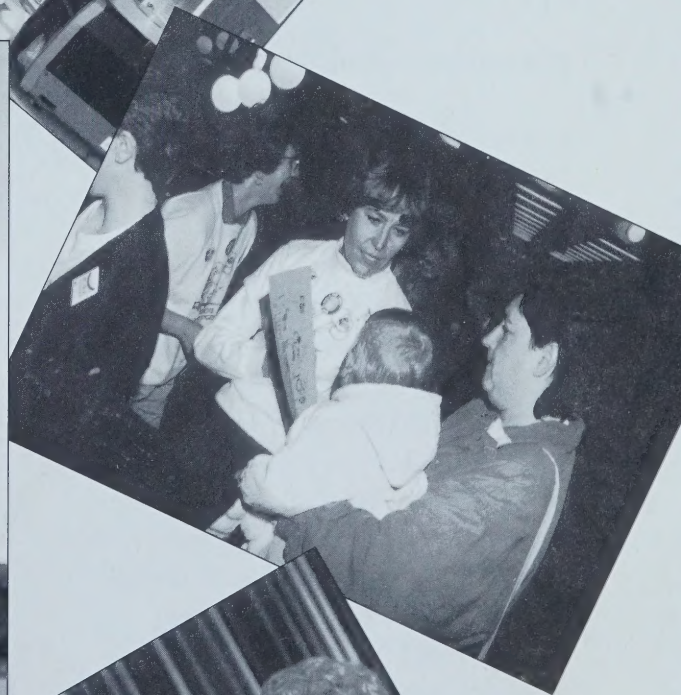
many newspapers accepted articles and pictures submitted by dental hygienists. In fact some newspapers were especially interested in the changes that are occurring in the dental hygiene profession, and the increase in enrolment into dental hygiene programs.

All events had a great impact on the public becoming more familiar about what a dental hygienist is and does. Unfortunately, the number of volunteers participating in NDHC was down on previous years. This is an area we can all help improve — we will have material available earlier than last year — and you can volunteer and become involved.

Still the 1991 Campaign was a great success, the members of CDHA did an incredible job. Congratulations and thank you.

It's time now to start planning for NDHC 1992. Become involved — get together and recruit your colleagues. It's a great way to met some fantastic people. And remember, **Behind every great smile is personal and professional dental hygiene care.**

Dawn Mueller, RDH, NDHC Co-ordinator



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University of Manitoba School of Dental Hygiene Refresher Program June 15-19, 1992

The School of Dental Hygiene is planning to offer a refresher program for dental hygienists, June 15-19, 1992. The program will include labs and seminars, as well as several clinic sessions. The program will be structured in response to the needs of the participants — so please let us know as soon as possible if you are interested.

Contact the School of Dental Hygiene for further information.

Prof. MGE Forgay
School of Dental Hygiene
University of Manitoba
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A one-day seminar presented by the Ontario Association of Orthodontists, with the financial support of 'Oral B'.

Fee of \$45.00 includes seminar, gourmet luncheon and coffee breaks.

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Ontario Association of Orthodontists
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New products, new methods, new theories, new insights into dental hygiene practice — all of these come about through research. Research that is conducted by dental hygienists who want to know How? Why? What? and When? Very basic! Yes, research is an endeavour in which we are all involved — not always in a formal manner. For those dental hygienists who wish to explore the future through the current research activities of their colleagues, and for those dental hygienists who wish to explore the future through an understanding of the literature, there is a conference to meet both needs. The 1993 CDHA Professional Conference, to be held in October in Niagara Falls, Ontario, will cater to the novice, the experienced, and just the curious.

Plan now for your expedition to

Niagara Falls, 1993.

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CDHA Professional Conference 1991

Future of Health Care — Health Promotion

Keynote Address The Evolution of Health Promotion



by Lynn McIntyre, MD,
MHS, FRCPC,
Division of Health
Education, School of
Recreation, Physical and
Health Education, and
School of Health Services
Administration, Dalhousie
University, Halifax,
Nova Scotia

Abstract

This paper describes the evolution of health promotion from its nascent roots which focused upon lifestyle to its global concepts of managing the future. A lifestyle orientation was the focus of approximately the first decade of health promotion efforts which followed the release of the 1974 document, "A New Perspective on the Health of Canadians". This was also a period of national health goal setting in Europe and in the United States.

*In 1984, the World Health Organization defined health promotion as the process of enabling individuals to take control over and to maintain their health. The focus of health promotion efforts thus changed from an emphasis on the individual to the more structural factors in society which support the types of choices that people ultimately make. **Achieving Health for All: A Framework for Health Promotion**, released in November 1986, further developed the concept of health promotion, suggesting three strategies for increasing health promotion: fostering public participation, strengthening community health services and healthy public policy.*

The health promotion movement has had other spinoffs such as the "Healthy Cities Movement" which was begun by another Canadian, Trevor Hancock. The newest evolution of the health promotion movement is a concern for a Healthy Future.

Introduction

Whenever a Royal Commission on Health Care reports, or an opposition health critic speaks about health care spending in a provincial legislature, or a consumer health advocate calls for health care reform, the same cry is heard: "We should be shifting resources

from sickness care to health promotion and disease prevention". The words "health promotion" and "disease prevention" are entrenched in the rhetoric of Canadians now. Our health care dollars continue to be spent on acute, institutionally-based and physician-managed care, though, while the promises of health promotion and disease prevention lie tantalizingly outside of our reach.¹

What I'd like to do today is trace the origins of the health promotion movement and describe its evolution from a narrow focus on lifestyle to a growth industry with many spin-off enterprises. I'll also try to look ahead at what the future prospects for health promotion may be over the next decade.

Definitions

Before we begin, we must be able to clearly differentiate "health promotion" from "disease prevention". As I trace the evolution of the health promotion concept, you'll see its definition evolve as well. Nevertheless, the fundamental distinction between health promotion and disease prevention remains. Health promotion focuses upon "wellness", another jargon term for global good health, while disease prevention concentrates on averting disease. Health promotion is a diffuse, positive concept; disease prevention is a more targeted, perhaps more negative concept.

I think it's worthwhile spending some time on disease prevention to clarify that concept in our minds before tackling the muddier notion of health promotion. In basic prevention courses, students are taught the "levels of prevention", namely, primary, secondary and tertiary prevention.²

Primary prevention is the prevention of disease from occurring in the first place. An example would be immunization for measles. An immunized child is prevented from ever becoming infected with the wild measles virus. The targeted condition, measles, is clear; the approach is very direct, ie, providing artificial immunity to a viral agent. In the dental hygiene field, teeth brushing is a primary preventive strategy for the prevention of dental caries.

Secondary prevention is the early detection of disease which leads to reversal or cure of the condition. The Pap smear is a test which detects cervical cancer in its earliest stages, prior to the cancer invading the deeper layers of the cervix. Once detected, local treatment can remove the precancerous area and prevent the develop-

ment of widespread and, often fatal, disease. Mammography for the early detection of breast cancer is another secondary prevention or "screening" manoeuvre for disease prevention. The early detection of gum disease is another secondary prevention strategy. Again, the focus of secondary prevention is specific to one disease entity.

Tertiary prevention is not purely a preventive activity. It constitutes the prevention of the recurrence of disease or the prevention of disability after disease occurrence. For example, people who have had rheumatic fever are required to take penicillin as a means of preventing further attacks and further destruction of their heart valves. A root canal might be a tertiary prevention manoeuvre for the prevention of more serious abscesses of the bone.

Disease prevention concepts have evolved just as health promotion has evolved. We all probably remember the time the "annual check-up" was considered a part of appropriate health maintenance behaviour. Adults and children would spend a pleasant twenty minutes or so with their physicians saying that they felt fine and having their heart and lungs listened to and perhaps letting the doctor have a brief feel of their abdomens. That was all changed in 1979 when the Canadian Task Force on the Periodic Health Examination published its famous report on the effectiveness of clinical preventive services.³ Gone was the annual check-up; in came the periodic health examination which recommended appropriate, effective and life-stage oriented assessments in its place. No longer did the up-to-date doctor have to listen to the heart and lungs of a previously well adolescent; newly introduced screening procedures such as checking the stool for occult blood were not recommended because they lacked effectiveness in that setting; and regular blood pressure measurements were emphasized in adults and the elderly.

In the United States, Lester Breslow and Anne Somers' work on the Lifetime Health-Monitoring Program also cast a critical eye at all routine preventive activities physicians undertook and recommended age-specific checklists of manoeuvres.⁴ More recently, the continuing Canadian Task Force on the Periodic Health Examination has teamed up with the U.S. Preventive Services Task Force⁵ to refine its recommendations and explore new preventive areas for clinicians to incorporate into their health assessment visits.⁶ This book by the Chairs of the Canadian and US Committees talks about the new clinical preventive model — a way of looking at preventive initiatives without the usual rhetoric.

The reason I've elaborated upon the evolution of the disease prevention concept is to make it clear that disease prevention remains largely in the medical domain and is disease-oriented. As dental hygienists, preventive

dental care is very familiar to you. In fact, apart for some diagnostic assessments, your work is highly preventive.

Health promotion is not disease specific; it doesn't imply a health professional "doing" something to a patient. It doesn't conform to the traditional medical model of a health provider intervening only when a person's health is in jeopardy. That's what I mean by a positive concept of health—health as a resource to conserve; health status that can be enhanced even in the absence of disease.

The words "health promotion" were first used in the famous 1974 document "A New Perspective on the Health of Canadians" also known as "The Lalonde Report".⁷ In the report's preface, Marc Lalonde wrote, "Good health is the bedrock on which social progress is built. A nation of healthy people can do those things that make life worthwhile, and as the level of health increases so does the potential for happiness." These simple statements signal a shift in the thinking of decision-makers about the value of health. Canadians had previously been governed by the belief that the job of government was to build hospitals, train physicians and other health professionals, and relieve some of the financial barriers to medical and hospital care of its citizens. A health care system was created to care for the nation's sick people. Now, we were told that a healthy population had intrinsic social and economic value and was considered a national resource.

We haven't perhaps made that last shift away from thinking of health programs as social programs, however. Education and health spending are still counted under social program spending in government budgets but with the theory espoused by the Lalonde Report, health was valued for the benefits it brought to society, rather than as a financial drain on society.

The report mentioned that improvements in the general standard of living, in public health protection and in the medical sciences had led to improvements in health. It also identified "counter-forces" which threatened health improvements. These included "environmental pollution, city living, habits of indolence, the abuse of alcohol, tobacco and drugs, and eating patterns which put the pleasing of senses above the needs of the human body". This broad understanding of the determinants of health and disease led to the development of the "health field concept" which expanded upon the traditional notion of the health care system.⁷

The health field concept viewed health within a new conceptual framework broken up into four broad elements: human biology, environment, lifestyle and health care organization. Human biology includes aspects of physical and mental health that are a consequence of the basic make-up of the individual — genetics, processes of maturation and aging, and the internal body systems.

Environmental elements affecting health were regarded as out of the control of the individual and included such factors as pollution, garbage and sewage disposal and social influences such as stress and social change.

The lifestyle category included decisions made by individuals which affected their health such as smoking and substance use. These were called "self-imposed risks".

Health care organization consisted of the quantity, quality, arrangement, nature and relationships of people and resources in the provision of health care; or what we call the health care system. The text went on to discuss the categories in order of importance; for many conditions, lifestyle factors were by far the most important contributors to disease and disability.

Today we take it for granted that lifestyle risk factors are important contributors to preventable illness, deaths and disability but in 1974, this was a new perspective. The notion that a bad habit adopted was a self-imposed risk, a personal choice, did unfortunately set back the field of lifestyle education by at least a decade. Most health educators today believe that lifestyle habits such as smoking are not personal choices, but are shaped by peer forces and marketing influences that make unhealthy choices easier to adopt than healthy choices.^{8,9}

In the Lalonde Report, the Government of Canada proposed two broad objectives in order to achieve good health for Canadians: the reduction of mental and physical health hazards for those parts of the population whose risks are high; and improved accessibility of good mental and physical health care for those whose access was unsatisfactory — one wellness objective, one health care objective.

In pursuit of these two objectives, five strategies were proposed. The first was a Health Promotion Strategy "aimed at informing, influencing and assisting both individuals and organizations so that they will accept more responsibility and be more active in matters affecting mental and physical health". The second, third and fourth strategies were called Regulatory, Research and Health Care Efficiency, respectively. The fifth strategy was a Goal-Setting Strategy, "the purpose of which was to set, in cooperation with others, goals for raising the level of the mental and physical health of Canadians and improving the efficiency of the health care system".

For every strategy, there were also several recommended actions. For the Health Promotion Strategy, for example, such topics as educational programs on nutrition, motor vehicle accident prevention, risk for coronary heart disease, awareness about the hazards of tobacco, alcohol and venereal disease were proposed.

So with that, the report ended. Canadians had been enlightened by a new perspective on their health. New strategies to tackle their health problems had been proposed. Foremost among these health strategies was the

one which called on individuals to make healthier decisions about their health behaviours.

In Canada, the report was thereafter ignored.¹⁰ All that we took from it was a lifestyle education model of telling people to make healthier choices and blaming them perhaps, if they chose to do otherwise.

The thousands of copies of the Lalonde report which were printed were not wasted, however. They were sent all over the world to inspire health policy leaders in many countries. No country was more inspired than the United States of America.

The United States embraced the Lalonde Report and set out to implement its main recommendations. The U.S. started with the health goals strategy, signalling for the world a new era in health planning. The use of health resources should be allocated for the achievement of health outcomes, rather than health resource development such as the building of hospitals and training of physicians.

In July 1979, Dr. Julius Richmond submitted the first Surgeon General's Report on Health Promotion and Disease Prevention.¹¹ That report, "Healthy People", reviewed current preventable threats to health, and identified fifteen priority areas in which, with appropriate actions, further gains could be expected over the decade. The report established broad national goals — expressed as reductions in overall death rates or days of disability — or the improvement of the health of Americans at the five major life stages. One goal, for example, related to improving infant health, and the related objective aimed by 1990, to reduce infant deaths by at least 35%, to fewer than nine deaths per 1000 live births. This was a blueprint for where the American people wanted to go in terms of health improvement.

In the Fall of 1980, the Surgeon General issued a second report, "Promoting Health/Preventing Disease: Objectives for the Nation", which established specific and quantifiable objectives necessary for the attainment of these broad goals.¹² Objectives were established for each of the 15 priority areas identified in the first Surgeon General's report which included high blood pressure control; family planning; immunization; fluoridation and dental health; smoking; and physical fitness and exercise, to name just a few.

For each of the 15 areas, specific national objectives were defined for five categories: 1) improved health status; 2) reduced risk factors; 3) improved public and professional awareness; 4) improved services and protection; and 5) improved surveillance and evaluation. The blueprint was thus fine-tuned and an evaluation component of its progress toward goal and objective achievement was written in.

One might notice however, that the report linked health promotion and disease prevention in some undefined way. The "how-to's" of achieving health improve-

ment were also woefully weak and were confined to improved public and professional awareness and service delivery — very medical model, very practitioner-oriented, with very few distinctions between disease prevention and health promotion.

With the passing of time, I'm able to summarize the progress of the United States in achieving its objectives for the nation. Basically, one-third of its objectives were achieved easily, one-third were partially achieved, and little or no progress was made on another third.¹³ Elaborate monitoring systems were developed by which these health outcomes, including health behaviours, could be tracked. I'm not sure that much was accomplished through deliberate programming, however, because many of the earliest successes such as significant reductions in the occurrence of cases of congenital rubella syndrome and trichinosis (from eating infected, raw pork) were occurring anyway.

The US has now produced its "Healthy People 2000" report which consists of three goals (related to access to preventive health services, health equity, and the reduction of premature death, illness and disability).¹⁴ The report also revised many of the original objectives. The US Public Health Service has also produced a Model Standards handbook which assists state and local public health agencies to develop their own objectives.¹⁵

My concern with the American process is that it doesn't support health promotion as it might. It doesn't separate out health promotion activities from disease prevention activities and still clamours for education as if ignorance is why people adopt unhealthy habits.

The European Office of the World Health Organization was the next influential group to jump on the Lalonde Report bandwagon. The Office watched the American goal-setting process and tailored it to serve its many constituent countries. Its document, "Regional Strategy for Health for All", also had three goals: adding years to life, life to years, and health to life, and a comprehensive set of health targets.¹⁶

We are all familiar with the "Health for All" movement which began with the 1978 Alma Ata declaration that the world intended to achieve health for all its citizens by the year 2000.¹⁷ Health for all would be achieved through primary health care which would be accessible to everyone. To this day, when I speak to representatives of developing countries about "health promotion", my host always reminds the audience that "health promotion" is the next phase after primary health care and of academic interest to them only. As you'll see, this exclusionary philosophy was adopted by the WHO when the Charter for Health Promotion was launched.¹⁸ But I digress.

The European Regional Strategy for health led many of its signatory nations to develop their own national strategies for health. Somehow, many of these countries

were able to evolve the goal-setting exercise into a fundamental reassessment of public policy for health. This shift, I believe, has furthered the concept of health promotion as much if not more than the Lalonde Report furthered our understanding of how lifestyle factors affect health.

The Nordic countries provide excellent case studies of this evolution. Denmark, Norway, Sweden and Finland have very decentralized health care systems with local authorities having responsibility for primary health care and social services.¹⁹ For example, the Finnish Health Directorate of the Ministry of Social Affairs consists of only 15 people, including support staff. The Nordic National Governments' role is one of leadership, or in the case of Sweden, standard-setting.¹⁹

One important aspect of health policy in the Nordic countries which arises from its local base is their commitment to a social model of health and to examining inequalities in health. In this model, "lifestyle" is seen as a matter of culture, a reaction to the environment. The commitment to examining inequalities in health within a social model of health in Sweden is so strong that, under legislation adopted by Parliament, one of the mandated tasks of health education, is to make clear the links between ill-health and social and environmental conditions.¹⁹

This philosophical orientation discounted the lifestyle education thrust of North American thinking of the time. An expanded understanding of health promotion emerged.

In January 1984, a new program in "Health Promotion" was established in the WHO Regional Office for Europe, located in Copenhagen. Its seminal report, "Health Promotion, A discussion document on the concept and principles", has clarified the term for us today and challenges us to reorient our thinking.²⁰

What has become the working definition of health promotion was first articulated in that report. "Health promotion is the process of enabling people to increase control over, and to improve, their health." A new definition of health was also proposed. "Health is the extent to which an individual or group is able, on the one hand, to realize aspirations and satisfy needs; and, on the other hand, to change or cope with the environment." And then the qualifier, "Health is, therefore, seen as a resource for everyday life, not the objective of living; it is a positive concept emphasizing social and personal resources, as well as physical capacities".²⁰ Hardly as catchy, as the old definition of health, "a complete state of mental, physical and emotional well-being, not merely the absence of disease".¹⁷

The text of this six page pamphlet is rich. "In each country, region and district, health promotion should involve the full participation of all people in the development of their health." "Health promotion represents a mediating strategy between people and their environ-

ments, synthesizing personal choice and social responsibility in health to create a healthier future." "The inextricable link between people and their environment constitutes the basis for a socio-ecological approach to health."²⁰

Five principles of health promotion were outlined in the document:²⁰

1. Health promotion involves the population as a whole in the context of everyday life, rather than focusing on people at risk for specific diseases. Health promotion programs therefore can't really target smokers *per se* since they are a population at risk. Of course, disease prevention programs do target smokers.
2. Health promotion is directed toward action on the determinants or causes of health. Health promotion is supposed to act on what influences people to be healthy and this involves close cooperation between diverse sectors including (among others) social services, health, transportation, environment, labour and housing.
3. Health promotion combines diverse, but complementary, methods or approaches. These follow from the multi-sectoral approach. Community development is named as one of the approaches.
4. Health promotion aims particularly at effective and concrete public participation. As mentioned earlier, the community is seen as a vital stakeholder in health policy decision-making.
5. While health promotion is basically an activity in the health and social fields, and not a medical service, health professionals — particularly in primary health care — have an important role in nurturing and enabling health promotion. This statement has been broadly interpreted to mean several things; there should not be a free-standing health profession called "health promoter", and health promotion is not a professionally-driven activity, unlike disease prevention.

So now the notion of health promotion as a non-threatening lifestyle education message located comfortably within the medical model paradigm has been reinterpreted to mean the exclusion of health practitioners, community participation and control, the socio-ecological model of health, a focus on public policy and the structural, rather than individual, determinants of health. Needless to say, this revolutionary concept needed further exploration and this exploration returns us again to Canada.

On November 21, 1986, the first International Conference on Health Promotion meeting in Ottawa presented a Charter for action to achieve Health for All

by the 2000 and beyond. Known as the Ottawa Charter for Health Promotion, it stated that it focused on the needs in industrialized countries while taking into account similar concerns in all regions.¹⁸ Only a handful of developing world delegates attended.

The definition of health promotion in the charter is that developed by the European WHO, namely, the process of enabling people to increase control over, and to improve, their health. The discussion begins with a statement about the prerequisites for health (peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity). Health promotion is considered a process which must advocate, enable and mediate.

Advocacy is used to make political, economic, social, cultural and other factors favourable for health. Enabling people ensures that they have equal opportunities and resources to achieve their fullest health potential. The various sectors which influence health must be mediated to provide the prerequisites for health.

The Charter also stipulates what health promotion action means: building healthy public policy; creating supportive environments; strengthening community action, developing personal skills, and reorienting health services. The Ottawa Charter of Health Promotion is now well-entrenched in industrial societies' understanding of the term and its implications.

In Canada, the release of the Charter coincided with the release of "Achieving Health for All: A Framework for Health Promotion", also known as the Epp Report, coincided with the adoption of the Charter.²¹ True to the philosophy of the Charter, this document discussed a new vision of health based on the concept that portrays health as a resource which gives people the ability to manage and change their surroundings.

It pointed out the three health challenges facing Canadians: reducing inequities; increasing the prevention effort; and enhancing people's capacity to cope. Three mechanisms intrinsic to health promotion were proposed to address these challenges: self-care; mutual aid; and healthy environments. And pulling this all together, three implementation strategies were recommended: fostering public participation; strengthening community health services; and co-ordinating healthy public policy.

These terms are probably familiar to you now. The framework for health promotion has been used extensively by the federal and to a lesser extent, the provincial governments in launching new health promoting policies or programs. Examples include the Self-help Connection, a federally funded project of the Canadian Mental Health Association which links self-help groups.

The Strengthening Community Health Project which has recently wound down was funded by the federal government and sponsored by the Canadian Public

Health Association and its provincial associations and affiliates.²² The federal research funding agency, NHRDP has held a Strengthening Community Health literature review competition.

But somehow, the latest metamorphoses of the health promotion movement haven't congealed. In fact, there is some polarization between traditionalists who wish to see the more professional health education approach, which emphasizes personal choice, lifestyle and individual behaviour, and those who see the more social/policy model represented by the Charter as the true path.

I see us now in a time of health promotion spin-offs. As I near the end of my talk, I'd like to briefly mention several of these initiatives: the Healthy Cities Movement, the New Public Health, Health Goal-Setting in Canada, and Healthy Futures.

In October 1984, the City of Toronto Public Health Department held a conference, "Beyond Health Care", hosted by Dr. Trevor Hancock, then Associate Medical Officer of Health.²³ The conference examined public policy decisions a municipality could make which affected the health of its citizens. A municipality which reviewed its policy decisions with respect to their impact on citizen health would create a healthy city.

Like other Canadian health promotion initiatives, the "Healthy Cities Movement" left Canada for Europe where it flourished. Several years later it returned to Canada as the "Healthy Communities Movement".²⁴ Mayor John Savage of Dartmouth, Nova Scotia was one of a handful of municipal leaders who founded the Canadian Healthy Communities Movement.²⁵ Over 100 communities now participate in Canada.

Recognizing the influence of the local physical and social environment on health, urban centres and towns are coordinating the policies of various municipal departments to improve health. Communities attempt to address such concerns as physical safety, working conditions, affordable housing, social assistance policies, racial harmony, safe recreation, community self-help, employment and economic opportunities among other issues.²⁵ The health promotion ideology is directed at changing the local health environment, rather than at exhortations to individuals to improve their lifestyle. I hope the potential of the Health Communities Movement will be realized. Early indications are that municipal leadership and citizen support are vital for success, without which a community's participation is poor rhetoric.

Let me now present a background to the "New Public Health" movement. The first public health workers functioned as sanitary reformers. They used the principles of contagion and epidemiological methods to control infectious diseases and other diseases of hygiene. Advocating and often enforcing change among the most disadvantaged members of society, many of

the early public health leaders were also social reformers and worked for the alleviation of poverty.

The lung cancer controversy which began in the 1950's spurred the growth of non-infectious disease epidemiology and focused the attention and efforts of public health workers on non-communicable disease such as the effects of radiation, the causes of ischemic heart disease, and the value of fluoridation for the prevention of dental caries. A new public health armamentarium was in place in terms of health education messages and primary and secondary preventive manoeuvres.

Now, the new public health looks again to root causes of social disadvantage.²⁶ Public health workers focus upon achieving equity in health and have targeted changes in the non-health sectors such as agricultural policy, economic development, manufacturing processes, and issues formerly in the domains of the Ministries of housing, transportation, labour, environment, and the attorney general. In fact, the public health issues of the "new public health" permeate every aspect of our economy and society. Public health workers have taken on the role of educating both the people and the government on the nature and extent of the social and environmental hazards to human life and health, and on the measures required for their control. In other words, the "health promotion" message of public health has now become both big "P" and small "p" political, as it too advocates for healthy public policies.

Remember Lalonde's call for goal-setting in 1974? Well, its back. One of the diseases of the 1980's was Royal Commission on Health Care-itis with virtually all provinces and territories in Canada commissioning bodies to recommend sweeping changes to control health care costs and promote the health status of citizens.²⁷ I started my talk by indicating that all task forces and commissions called for health promotion and disease prevention. They also called for health goal-setting to guide the planning activities of governments and of the health system.

Ontario spent millions of dollars and several years on its goals;²⁸⁻³⁰ Quebec has run through two goal-setting exercises to lead its reforms;³¹ New Brunswick looked at Ontario's goals and adopted them;³² and Nova Scotia's newly created Provincial Health Council, recommended by its government's response to the Royal Commission on Health Care report, is struggling with its approach to goal-setting.³³ Goal-setting is meant to provide the direction by which health care reform will occur. The jury is out, however, as to whether or not goal-setting processes or its products lead to improved health or to health system reform.³⁴

The newest evolution of the health promotion movement is a concern for a Healthy Future.³⁵ Dr. Trevor Hancock, our Toronto-based friend and founder of the Healthy Cities movement, is also a founder of

the Healthy Futures movement. I spoke with Trevor last year when he was the recipient of a prestigious career achievement award at the Canadian Public Health Association's annual meeting. He commented, "first it was beyond health care, then beyond public health, then beyond the healthy city, what next?". Well, a healthy future, hopefully.

The Health Futurists have developed a positive vision of health, its consequences and strategies for moving toward this vision. The health futurists help us to create a preferred future, the ultimate goal of health promotion.

Those who discuss the "Greying of Canada", for example, have been influential in the movement. The Healthy Futurists would say that our societies are not only adding years to life but "life to years" as we move toward a more aged population. They tell us that we can look forward to the healthy aged—older people who no longer are sick or disabled from the largely preventable chronic diseases of our day. The Health Futurists ask us to prepare our society for this positive eventuality and avoid the doom and gloom scenarios about our aging population leading to inevitable pension fund bankruptcies, out of control health care costs, and warehouses of abandoned and disabled seniors.³⁶

Some health futurists focus upon technology and its assistance to the next generation's leisure activities, economic productivity, health assistance and environmental protection.³⁷ Strategies are prepared to avoid depersonalization, ecological disaster and technological capabilities trampling the values and ethics of the population.

The Healthy Futures spinoff can be upbeat and fun; its message is a serious one, however — our future is in our hands.

Well, I've taken you a long way in the evolution of health promotion, from the Lalonde Report and its focus on lifestyles, to the WHO's definition which said that health promotion was a process of enabling individuals to take control over and to maintain their health. Next we saw, the Achieving Health for All document suggesting the challenges, strategies and mechanisms for health promotion. And of course, the different initiatives that I have called health promotion spin-offs.

So, what do I see for the future of health promotion? Perhaps a mature integration of people who work in public health, health education, primary care and health planning who share power with citizens and their communities. That is the ideal. The worst future is the development of deeper and wider cleavages between health providers and consumer advocates, both manipulating and manipulated by political forces.

In concluding their paper, "Health Promotion. What it is? What is will become?", Lawrence Green and John Raeburn believe that the key integrating factor of the health promotion model is enabling.³⁸ They write that,

"Enabling is a matter of power over the distribution of resources, and the setting of priorities; it is seen as the key concept for an integrated approach that spans the various components and ideologies of health promotion." "Enabling requires the direct channelling of resources (such as knowledge, skills and money) to the community, a process involving education with appropriate organizational, economic and policy support."

I tend to share their hope for an integrated future for health promotion but I would state it more simply. Every day, whoever we are and whatever we do, there should be at least a moment spent on helping ourselves, our families, our communities and our world to conserve our health resources. Thank you. 🐼

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CDHA Professional Conference 1991

Future of Health Care — Health Promotion

Health Promotion Workshop



*An overview by
Lucie Brunet, BA,
Process Facilitator*

Health promotion is a natural extension of a dental hygienist's role. The perception of dental hygienists as active health promoters is one which needs to be acknowledged, valued and encouraged. This is one of the key messages heard by participants attending the Health Promotion Workshop at the CDHA Second Professional Conference held June 8, 1991 in Moncton, New Brunswick.

The workshop was designed to increase participants' understanding of health promotion concepts and how these can be applied to oral health, in a spirit of consensus-building and in collaboration with other stakeholders who also have an interest in promoting health.

Sharon Amer, Advisor, Dental Health Standards, Health and Welfare Canada, outlined the experience of the National Steering Committee on Oral Health Promotion in developing a consensus-building process and in using a multidisciplinary approach to develop a vision of oral health promotion for the future. The work of the Steering Committee will be used to develop a community health planning guide on oral health promotion.

Joanne Clovis, Director, School of Dental Hygiene, Dalhousie University, identified emerging issues and trends which are changing oral health patterns and care in Canada. These include demographic trends (e.g. the aging of the population, increased immigration, high birth-rate among native people, increasing number of female-led single-parent families). Disease trends point to a high prevalence of dental decay in native children, increased retention of teeth, changing patterns in dental decay and periodontal disease, as well as concerns for control of infectious diseases.

Trends in oral health care relate to access to care, the shift in the mix and numbers of oral health care person-

nel, escalating costs, concerns about quality assurance. Social trends indicate that while Canadians are adopting healthier lifestyles, they also recognize the impact of public policies and the environment on personal health; multidisciplinary collaboration is on the rise; and consumers are demanding greater participation in health decisions.

Oral Health Challenges

In small groups, workshop participants were asked to identify specific challenges which they foresee will have implications for dental hygiene in the next five to ten years.

Improving access to care and to information remains a major challenge. Increased consumer awareness of how dental health contributes to overall health is one approach. Another is to provide dental care in alternative settings. Consumer demand for dental hygiene services is increasing and might increase further if consumers were able to go to dental hygienists directly, without having to go through a dentist first.

Reducing inequities represents another key challenge. Groups who have a low socio-economic status or who do not enjoy good dental health must be targetted. These include First Nations groups, the elderly and immigrants.

Dental hygienists are becoming increasingly aware of their contribution to overall health and are seeking increased visibility and autonomy as a profession. Public recognition of licensed dental hygienists is therefore vital. Vision sharing among hygienists and increased commitment to community service will lead to a greater sense of empowerment on their part. Dental hygienists must become proactive in offering to represent oral health concerns on community agency boards and provincial commissions addressing health issues.

Dental hygiene educational programs need to be broadened to include such elements as health promotion concepts, and language and cultural sensitivity training. Career progression opportunities will have to be expanded through post-graduate diploma or continuing education programs. New students must be introduced early to career pathing, so that they may select a course of study in accordance with their long-term goal. Because of the economic situation, graduates will find fewer employment opportunities in private practice, and educators may need to redirect the focus on community health instead.

Political awareness of economics is critical if dental hygienists are to understand how oral health dollars are spent by consumers, governments and insurance companies. Because poor dental health is generally not life-threatening, it is not considered to be an high priority as far as health services are concerned. Lobbying and advocacy skills must therefore become part of the dental hygiene curriculum. The reallocation of resources, on the basis of partnerships which promote complementarity of services, must be advocated and implemented.

Collaboration represents the *modus operandi* of the future: among oral health professionals, with other health care professionals, as well as with consumer and community organizations. A collaborative approach allows dental hygienists to link oral health needs with overall health. Examples of multidisciplinary collaboration demonstrate that such an approach is not only desirable, but also viable. Gaining the support of community health representatives and of the community as a whole in introducing a fluoride tablet system can be a determining factor in ensuring the success of such an initiative.

Collaboration requires that all parties learn to let go of territorial instincts and agree to share information and resources. The benefits of forging partnerships with community agencies and other health professions need to be highlighted in dental hygiene education. For instance, fluoridation can be promoted through participation of the Healthy Communities movement across Canada.

Linking oral health to overall health can happen at the political level (e.g. lobbying governments to make oral health a priority) and at the level of the consumer (e.g. taking a patient's blood pressure, keeping her or his medical history up-to-date, promoting smoking cessation). Health promotion provides dental hygienists an added incentive to expand beyond the clinical approach, thus strengthening and broadening the basic preventive orientation of the profession. By focusing on the total health concept, it becomes easier to model and reinforce healthy choices.

Health promotion is still a relatively new concept, and not all oral health practitioners or professionals in other health disciplines are familiar with the paradigm shift that it entails. Education regarding oral health promotion concepts and their importance will need to be actively encouraged.

Research is required, particularly in the areas of consumer needs, cost-effectiveness evaluation and innovative ways of improving access to care and information.

Health Promotion Mechanisms and Strategies

Following an overview by Joanne Clovis of oral health promotion mechanisms and strategies (based on the Achieving Health for All framework), participants then gathered in homogeneous groups to identify ways in which each constituency (private practice, communi-

ty health, education, research) can apply health promotion to its own environment.

Dental hygienists working in private practice emphasized the need to adopt a total health concept and to link with community agencies such as the Canadian Cancer Society. To increase visibility and credibility, it was suggested that dental hygienists distribute their own business cards, volunteer for cable television interviews and represent dental hygiene on boards of community agencies or multidisciplinary health care groups. Self-regulation of the profession is viewed as a key priority.

Healthy environments can be maintained by rigorously applying infection control practices and promoting smoking cessation and smoke-free areas. To promote healthy behaviours, health-related magazines and books can be left in waiting rooms. Corporate sponsorships (e.g. product samples) are viewed as being helpful in promoting self-care.

Community health practitioners illustrated the impact of healthy public policies: in New Brunswick, the Department of Health and the school board have been working together to institute a school food policy outlining what foods will be sold in the schools. Dental hygiene needs to be represented on community boards and committees, particularly on the provincial school health associations.

Lobbying for healthy public policies is most effective when done through broad-based coalitions, such as the Healthy Communities movement and the active involvement of consumers. Collaboration with other health professionals will ultimately lead to greater recognition of dental hygiene. Both dental hygienists and the public could benefit from further education on the appropriate use of fluorides.

The curriculum of other health professionals should include the importance of oral health as an integral part of total health. Oral health promotion can also be emphasized during in-service training for teachers in faculties of education or through Early Childhood Education programs for daycare workers. The dental health component of prenatal classes and of the Nobody's Perfect parenting program can also be targeted.

Educators identified several ways of promoting self-care. These include modelling healthy choices, promoting a healthy focus in schools, teaching students about tobacco cessation and informing patients on the purpose of screening exams and blood pressure tests.

Links with other health care professionals are to be expanded and health promotion courses given by interdisciplinary teams actively encouraged. Group process skills, and cultural and language sensitivity training should be part of the curriculum.

To help sustain healthy environments, dental hygienists can be educated regarding municipal by-laws governing the disposal of waste, and a list of biodegradable items can be made available. Educators must communi-

cate a feeling of empowerment to hygienists, so that they know they can make a difference. Ergonomics is an important factor in preventing the carpal tunnel syndrome and in ensuring that hygienists can walk straight in their later years.

For their part, researchers stressed the need to conduct epidemiological studies in response to the appalling lack of Canadian statistics on oral health status. Dental health researchers should be encouraged to undertake research through the following means: having CDHA give more frequent workshops on the subject, encouraging promising students to initiate research, providing guidance on how to integrate the oral component into a larger health research project.

Qualitative research, combined with the development of improved indicators of oral health, are necessary. Communication on the existence and results of projects is required in order to inspire further projects and generate interest. There is a definite need for resource persons who can act as mentors to nurture dental hygienists who are relatively new to the research process and who could use assistance with writing proposals and publishing research results.

Participants requested that the CDHA Board of Directors examine and address priority issues and future directions in the area of health promotion. A recommendation was made that oral health promotion workshops be offered in each province in the coming year. ☛

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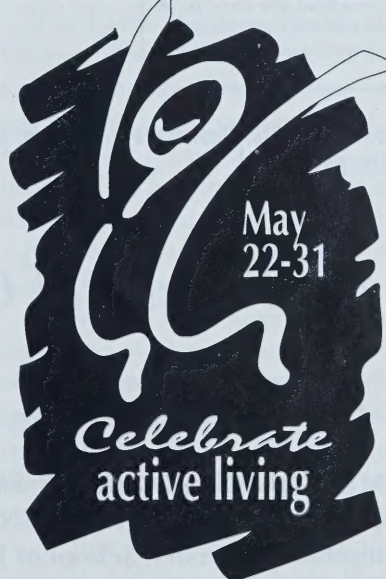
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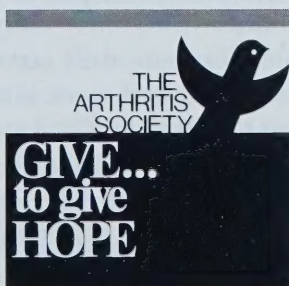
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Reprinted from the proceedings of the American Academy of Dental Research
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COMPARATIVE STUDY OF SULCABRUSH® VS. FLOSS ON PI AND GI. DR. A. ZARAKIAN, DR. L. M. STEINBERG, DR. F. ODUSOLA and DR. I.D. MANDEL (Columbia University, School of Dental and Oral Surgery, New York, New York, USA).

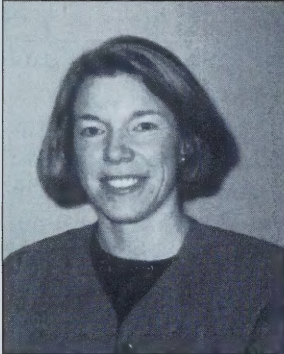
This study sought to determine the usefulness of a new interdental brush in reducing dental plaque accumulation and gingival inflammation. Thirty adult subjects were followed for three consecutive 30 day periods. Examinations were conducted at baseline 30, 60 and 90 days and gingival and plaque indices were scored. In the first thirty day period 15 subjects used the Sulcabrush® once daily and a soft bristle toothbrush as their routine while the other 15 subjects used unwaxed dental floss once daily accompanied by routine soft bristle toothbrushing. At the end of 30 days, all subjects were examined and were asked to refrain from sulcabrushing and return to their "everyday oral hygiene routine" for the next thirty days. On day 60, subjects crossed over—those who had sulcabrushed now flossed once daily while those who flossed now sulcabrushed once daily for the final 30 day period. Day 90, all subjects were examined. When the use of Sulcabrush® is compared to floss, it was found that both led to statistically significant reductions in plaque index, although one is not more effective than the other. Both Sulcabrush® and floss led to statistically significant reductions in gingival index.

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Dental Hygiene Profile

Public Health Programs



by Suzanne Knox, RDH,
BA, MEd

With the repeal of the century old *Public Health Act* and the proclamation of the *Health Protection and Promotion Act* in 1983, public health in Ontario was taking a new direction. The act authorized the Ontario Minister of Health to develop public guidelines for the provision of mandatory health programs and services to which boards of health would comply. A first series of guidelines appeared in 1984 followed by another revision in 1985 and then in April 1989 they were replaced by the Mandatory Health Programs and Services Guidelines. These new guidelines are to be implemented by the end of 1992.

The purpose of these new standards is to set out the requirements for fundamental public health programs and services targeted at prevention of disease, health promotion and health protection. Through these standards, public health will enable residents of the community to realize their fullest health potential. This is to be achieved by means of promoting improved health, preventing disease and injury, controlling threats to human life and function and facilitating social conditions to ensure equal opportunity in attaining health for all.

In Ontario, we use the World Health Organization (WHO) definition of health promotion — “a process of enabling people to increase control over and improve their health.”

Our health system has traditionally emphasized treatment and rehabilitation services. These services are intended to restore health to the extent possible and can be thought of as a health recovery system. Health promotion, on the other hand, focuses on good health rather than health problems and is to develop, maintain and enhance levels of health.

The Eastern Ontario Health Unit plans and delivers a variety of health programs and services pertinent to local circumstances and needs. These range from Healthy

Children to Healthy Elderly, from Nutrition Promotion to Water Quality.

To facilitate the implementation of these programs and services it became apparent that organizational changes were required. The interdisciplinary approach to program and services delivery was implemented to facilitate front-line staff working together towards common goals and objectives. The front-line staff all report to a program co-ordinator who is also a supervisor. We no longer have the traditional departments such as nursing, dental, inspection, et cetera. This new approach favours a small team approach and ownership of the programs and services by everyone. It promotes a much more holistic approach to health. This new structure is flatter and non traditional. It facilitates collaboration and consultation between programs, services and disciplines.

The Eastern Ontario Health Unit is situated East of Ottawa, West of the Quebec border, North of New York state and South of the Ottawa river. The unit employs approximately 200 people; 100 of whom work in public health. Our population base is approximately 170,000 people. The French and English cultures equally dominate. The central office is in Cornwall, Ontario with 5 suboffices. Each suboffice has its own special characteristics — from rural to urban, French, or English or mixed.

Each office has a supervisor responsible for the implementation of all programs and services for that area.

Each supervisor is also responsible for one, or several, specific program(s). Our central office has 4 supervisors/co-ordinators. As co-ordinators they are responsible for the planning and development of their respective program activities.

At this point, you must be wondering where do I come in. As Director of Public Health Programs, I ensure that the various programs and services are planned, developed and implemented in all offices via their supervisors/co-ordinators. Eight supervisors/co-ordinators report directly to me and in turn I report directly to the Medical Officer of Health.

I arrived at the Eastern Ontario Health Unit in April 1990, as the senior dental hygienist and also education consultant just as these changes were occurring. Within two weeks I was offered the co-ordinatorship of the Healthy Children Program. This program involved being responsible for such activities as hospital liaison to assess the home environment prior to infants leaving the hospital, visits to daycares for education and licensing purposes, hearing and vision screening programs in schools, parenting classes, speech and language assessment and therapy programs, health promotion and education in

the schools, dental education and screening programs and fluoride mouthrinsing program.

One of the most challenging and exciting projects that was initiated was the "Watch Me Grow/Regarde je grandis Program". The purpose of the program is to help every child have the best chance of meeting his fullest health potential. Parents come to the community drop-in centre to discuss their child's growth and development, breastfeeding and/or nutrition issues. Each child will be screened for hearing, vision, dental and language/communication problems around his third birthday. This will enable children to have a better start in school if problems are detected prior to school entry.

Another project that is dear to me is "Better Beginnings, Better Futures/Partir d'un bon pas pour un avenir meilleur." This community effort has brought in over \$600,000 per year for 5 years into the francophone community of Cornwall, Ontario. Various community organizations got together and developed a project proposal to submit to the Ministries of Health, Education & Social Services. Our proposal was successful in receiving the funds. As the title indicates it is to give young children (4 to 8 years of age) a better beginning in life to ensure a better future. Many initiatives are and will be implemented such as after-school daycare programs, availability of nutritious snacks at recess, breakfast programs, communal garden areas and summer activity programs for needy families to list only a few.

As co-ordinator of the Healthy Children Program, I became sensitive to the various health professionals' distinct roles and how best to work together in meeting the health unit's goal in enabling all children (newborn to nine years of age) in the community to attain their optimal level of physical, mental, emotional and social development.

In April 1991, I was appointed Director of Public Health Programs.

This new role has been a growing experience for me with no end in sight. When I graduated from dental hygiene in 1976, I never realized where I would be today. I always enjoyed learning so, therefore, I continued my studies by completing my Bachelor degree in english and psychology and later a master's degree in educational administration along with several credits towards a masters in business administration. I acquired my administrative experience throughout my teaching career which started in 1977.

In the course of a week my work varies tremendously. On a regular basis I meet with various program co-ordinators/supervisors to address concerns, questions and issues related to their program activities and their offices and to monitor the progress. One week recently, for example, we were addressing the issues of the installation of condom dispensing machines in high schools, the availability of the Hepatitis B vaccine to high-risk

groups, the licensing of a collective living centre for the elderly, funding for an antirecession project, establishing a nutrition policy with a school board and a new "hazard analysis critical control point" food safety program. I rely a great deal on the professionals for their expertise and work very closely with the Medical Officer of Health.

On a regular basis I receive the epidemiological data for our geographical area and the province.

When you begin to analyze the health status of the population you serve, you can only react to their needs: i.e. the number one cause of death and morbidity in Canada of children is accidents. Therefore, the more education that can be done to save these lives the better. Our Healthy Children Program dental staff teach injury prevention as part of their lesson in the early primary grades. Heart disease and cancer is prevalent in our adult population. Emphasis is placed on nutrition and physical activity in the middle primary grades. The incidence of smoking is higher than the provincial average in our adolescent and adult population. Our Healthy Children Program dental staff teach tobacco prevention in the later primary grades. Our dental staff conclude all lessons by teaching oral hygiene but the main focus is not dental health education in the pure sense, it is more on healthy lifestyles. When the children are screened and improvement in oral hygiene is noted, more one on one time is devoted to those in need.

One area that I find frustrating at times is the evaluation of the programs and services rendered — whether or not the program has achieved its health goal. This analysis is not easy in the case of health promotion, where it is difficult to attribute changes in the health status to specific programs. The difficulty is magnified further by the joint ownership of health promotion by many organizations in addition to public health and by the time required to see change.

Having taught dental hygiene at both the university and college level, I believe that dental hygienists must be utilized to their fullest potential. Other professionals are not aware of the educational background and the potential of graduate hygienists in health promotion. They believe hygienists can only clean teeth! As a hygienist I firmly believe we have a tremendous amount to offer in the area of health promotion and disease prevention (beyond dental) and we should not let it pass us by! ☺

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Dental Health Promotion

A Multidisciplinary Approach to Health Promotion for Seniors



*by Jenny Thomas,
DT, RDH, BA, MEd*

Introduction and Summary

This article highlights a program of dental health promotion for seniors which was implemented from October 1990 to May 1991, for the Ottawa-Carleton Health Department (OCHD), Senior Adult Directorate. The Directorate acknowledged the need for a program but was unable to provide dental staff to accomplish one. It was felt that making use of other health professionals such as the Public Health Nurse (PHN) may be a feasible solution. A dental hygienist consultant was hired on a contract basis to design an appropriate in-service program.

Two needs assessments were administered. The first was directed to the PHNs to determine both their current dental health knowledge and their attitudes towards the inclusion of dental health in their duties. The second was directed to the seniors in the region to determine exactly what information they would like to receive.

The structure of the in-service was designed to follow the principles of adult education, as well as maximize human resources. Brief reference is made to the evaluation techniques employed which showed that the program was considered to be very successful.

The goal of the program was two-fold: to improve the dental health of seniors in the Ottawa-Carleton community, and to enable these seniors to maintain optimum levels of oral comfort, aesthetics and function.

Discussion

A recent study by the dental division of the Ottawa Carleton Health Department (Slade 1990), indicates that senior citizens in the community value their dental health, appreciate regular dental care and want help in

achieving this. The study points out that health promotion and prevention strategies must be devised to reduce the incremental dental disease which contributes to the burden of illness for some seniors.

The primary mandate of the only dental hygienist in the senior adult directorate of the OCHD is to give in-service training to staff, and to assess the dental health status of residents in the collective living centres in the region. A consultant was hired to design the community health promotion program.

The OCHD felt that professionals such as public health nurses, physiotherapists, and home-care case managers, who are in regular contact with seniors living at home and carry out health promotional activities, could assist the staff dental hygienist with dental health education within the community.

A literature review was carried out to determine how much, if any, dental education is included in the nursing curriculum. Unfortunately, no information was located in respect to Canadian nursing schools but articles from the U.S., Australia, and the U.K. were used. They confirmed that the role of community nurses was increasingly directed towards community health promotion, but that dental health was not a priority subject within nursing schools. Community nurses also indicated that they needed further dental education and welcomed their expanded role.

The next step was to determine the educational needs of the PHNs in the OCHD. It was important to ascertain both the nurses' attitudes towards their involvement in dental health promotion and their current dental knowledge. A questionnaire was developed and eighty five per cent responded that given further dental education they felt that it was appropriate to expand their role, but their basic dental knowledge was found to be inadequate and they did not feel confident to carry it out at that time.

Simultaneously, it was decided that seniors within the community be approached to establish what specific information and/or services would be most useful to assist them in achieving improved dental health. A further literature review was conducted to provide information regarding appropriate needs assessment techniques.

The use of the focus group technique was found to be the most popular because information and feelings, which are difficult to ascertain through questionnaires, could be determined. Briefly, these focus groups are organized discussion groups that focus upon a pre-determined agenda. Participants are selected based upon pre-

established criteria. A facilitator keeps the discussion on track, and an observer records the findings. The research was accomplished by speaking to nine groups, the participants of which had an age range of 60 - 99 years and were living independently at home. The groups were located in both urban and rural districts, and were of English, French, and Chinese cultural backgrounds.

The research showed that seniors were confused about the number of dental products available in the market place and their utilization. It also revealed deep feelings of resentment and vulnerability concerning the cost of treatment and the loss of control at the dental office. Concern was expressed over sterilization techniques and amalgam fillings. The ability to differentiate between the various dental professionals was a popular topic. As well, systemic conditions and medications that affect oral comfort were of interest. Access to dental offices was a concern, not only in terms of ramps et cetera, but also knowing that the chosen dental office would be on an appropriate bus route. Getting themselves to the office, rather than relying on their children to drive them, was identified as an important factor in retaining independence.

Knowing the reasons for gum treatment and loose dentures was also significant, and they regretted the loss of teeth and were embarrassed when dentures slipped. Most voiced interest in the teeth of their grandchildren and were concerned that their care should be an improvement over their own. The few that had experienced implants were very enthusiastic, and almost all groups wanted to hear more about that topic.

The Public Health Nurse was considered a very suitable intermediary who was trusted and whose help on health matters was valued. Significantly, it was evident that seniors' schedules were not only very busy but adhered to very rigidly. The implication is that ad hoc groups, which are not already in the schedule, would not generate the highest attendance and that the utilization of regularly scheduled groups would be better. Neither pamphlets nor slides were popular and it was clear that resource materials, and the groups themselves, should be in a variety of languages. Dental health should be included more in general health fairs or seniors' conferences.

This research led to the recommendation that four in-service educational topics be prepared for the PHNs on the following subjects:

1. **Prevention**, including clarification of available dental aids and their use.
2. **Community Services**, explaining cost and financial subsidies, the location, language, transportation and accessibility of dental offices and differentiating between dental professionals.
3. **Dental procedures**, being informed on the availability of and rationale for certain dental procedures.

4. **Systemic Conditions** and their relationship to the oral cavity.

To encourage attendance by seniors it was recommended that, where possible, health promotional groups be of short duration and be "piggy-backed" onto pre-existing groups such as exercise, bridge, and luncheons. This way schedules would not need to be disturbed. The format should also be flexible and favour discussion.

A "train the trainer" concept was adopted. The Ottawa-Carleton region is divided into regions with a team of PHNs responsible for each area. Each team designated two of their members to receive in-depth training by the consultant. This pair in turn trained their peers at an in-service workshop held two weeks later. A pair of PHNs was therefore responsible for teaching one topic. Thus two people on each team had in-depth knowledge of at least one dental topic and a good understanding of the other three. The workshop consisted of four tables, or centres, each designated to one of the topics. The participants spent one half hour at each centre, the designated pair teaching the subject matter in whatever format they chose. The participants moved on to the next subject until each topic had been covered.

The consultant and staff dental hygienist prepared the written material and the visual aids which were designed to be extremely portable. Each participant received a CDHA Senior Smiles folder which included detailed information explaining each of the four topics and a pamphlet indicating the oral side-effects of drugs commonly taken by seniors. Also provided was a list of local dentists and denture therapists with information regarding the language spoken in the office, hearing loops, ramps, large print forms, bus routes and parking facilities.

An evaluation of the in-service training occurred during the workshop. A simple survey was distributed requesting participants to rate the kit, the written module and the in-service. The second evaluation consisted of small situational activities that required the participants to understand and utilize the knowledge gained in the in-service. These showed that the sessions were well received and understood, and full of practical knowledge for seniors. The in-service was very much appreciated and comments indicate that it was the best some had ever experienced. They highly recommended the use of that format again for other subjects and for other health department professionals.

A third evaluation was made a week after the in-service. This was a repeat of the original questionnaire, to assess whether or not any gains had been made with regard to the dental knowledge of the PHNs. The results showed an overall improvement in both knowledge and attitude towards dental health promotion. They now considered themselves ready to hold dental promotion groups.

While the program was directed to PHNs at this time, further in-service is anticipated for other health professionals such as physiotherapists and home care case managers.

Conclusion

The author discovered through the focus group method, an easily implemented, effective method of research for discovering peoples' educational needs. It enabled her to tailor the content of the in-service to suit the needs of the PHNs. This project is merely the first step towards attaining the program goal of improving the dental health of the seniors population in the Ottawa-Carleton community and to maintain optimum levels of oral comfort, aesthetics and function. While this program is extending the bounds of dental health knowledge and uses health professionals who are in continual contact with seniors, there remain many isolated seniors, who do not regularly attend groups, and who also require dental attention. ☛

Jenny Thomas, now of Ottawa, is a Dental Hygiene Consultant with Experdent Consultants Inc. Upon arrival from her native Britain, she studied for a Bachelor of Arts degree in 1972, from Carleton University. She has been actively involved in the dental hygiene profession for twenty years, and worked at the Ottawa Civic Hospital for six years, stimulating her interest in gerontological issues. She recently completed her Master's in Education at Ottawa University.

Jenny will be presenting details of this multidisciplinary approach to health promotion for seniors at CDHA's 3rd Annual Professional Conference in Victoria this June. Both a lecture and workshop format will be used, so that participants may benefit from observing the focus group technique in action.

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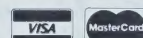
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CANADIAN DENTAL ASSOCIATION

SELF ASSESSMENT TEST

HEALTH PROMOTION — FLUORIDATION

1. Fluoridation is an ideal community health measure because it is:

1. devoid of hazard to life or function
2. effective immediately and over a long period of time in reaching all people in a community
3. available at a cost in money and facilities within the economic capabilities of a community
4. all of the above

2. If the existing fluoride content of a water supply were 0.3 ppm and the mean maximum daily temperature is 12.5°C, what amount of fluoride would be added to the water supply to obtain an optimum level?

1. 0.7 ppm
2. 1.0 ppm
3. 1.2 ppm
4. 1.7 ppm

One of the current trends in community dental health is to apply known preventive measures to school populations. Several communities have implemented programs utilizing one or more of the following preventive measures:

- a. fluoridation of school water supplies at 4.5x the optimum
- b. a 0.2 per cent weekly neutral sodium fluoride rinse
- c. administration of a 1 mg. fluoride tablet daily
- d. daily administration of fluoride gels in trays
- e. topical application of standard acidulated phosphate fluoride on a yearly basis.

3. Based on your knowledge of these preventive measures, which two measures would you expect to have the lowest cost to implement?

1. a and b
2. a and c
3. a and e

4. Which two measure would have the highest professional manpower requirements?

1. b and e
2. d and e
3. a and e

5. To ensure success in gaining fluoridation for a community, a dentist or dental hygienist should:

1. work with known leaders in the community
2. identify themselves as leaders in a campaign for fluoridation
3. compete publicly with politicians
4. call attention to themselves as active supporters of fluoridation

6. to 7. For purposes of recording quantitatively the various degrees of severity of mottled enamel due to fluorosis, Dean developed standards of classification. These standards were designated as:

1. normal
2. questionable
3. very mild
4. mild
5. moderate
6. severe

6. The enamel discloses slight aberrations from the translucency of normal enamel, ranging from a few white flecks to occasional white spots. This classification is utilized in those instances where a definite diagnosis of the mildest form of fluorosis is not warranted and a classification of "normal" not justified.

7. Small, opaque, paper-white areas scattered irregularly over the tooth but not involving as much as approximately 25 per cent of the tooth surface. Frequently included in this classification are teeth showing no more than about 1 to 2mm of white opacity at the tip of the summit of the cusps of the bicusps or second molars.

Match the above criteria with the correct designations (1 to 6).

- 6.
- 7.

8. Which of the following arguments against fluoridating public water supplies are used by antifuoridationists?

- a. fluoride increases the risk of birth defects
- b. fluoride increases the risk of cancer

c. the addition of fluoride to public drinking water is against individual rights

1. a and b
2. a and c
3. b and c
4. all of the above

9. Assume a community has just defeated a fluoridation referendum by a two-to-one margin. The dental hygiene representative on the Citizen's Committee for Fluoridation should recommend that the Committee:

1. place the issue on the next ballot
2. make fluoride tablets available to members of the community
3. develop a long-range plan for community education and action
4. publicize positive findings of the effectiveness of fluoride on school children

10. If fluoridation is impractical in a community, which of the following would be considered acceptable alternatives?

1. topical applications of fluoride
2. dietary supplements of fluoride
3. fluoridation of school water supplies
4. all of the above

Self-Assessment Answers

4. 10	5. 1
4. 8	4. 2
4. 8	3. 1
7. 3	2. 1
6. 2	1. 4

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Self-Assessment test compiled by Dianne Stojak, DipDH, ID, Co-ordinator for Community Dental Health at Vancouver Community College.

Canadian Students in U.S. Dental Hygiene Programs

by M.E. Kinnear, RDH
(right), Dalhousie University,
Halifax, Nova Scotia, and
M.G.E. Forgay, Dip DH,
BA, BEd, MA (left),
A/Director, School of
Dental Hygiene, University
of Manitoba



In recent years, many dental hygiene programs in the United States have experienced declining applicant pools. This is not true in Canada, where dental hygiene applicants exceed available positions in all programs, sometimes by ratios as high as 60:1. In the face of fewer dental school applicants, American dental schools have admitted an increasing number of Canadians. This trend has been documented by Bennett & Boyd.^{1,2} No similar studies have been made concerning Canadians applying and being admitted to American dental hygiene programs.

Canadian dental graduates from American programs, in spite of their citizenship, are not eligible to practise dentistry in Canada, except in some specific locations, without having successfully completed the National Dental Examining Board examinations. Similar barriers do not exist for American-educated dental hygienists. Dental hygienists can become licensed to practise in Canada much more easily than can American-educated dentists because graduates of American accredited dental hygiene programs are recognized by the provincial licensing authorities, and they must meet those conditions required for licensing in that province. The combination of availability of positions in American dental hygiene schools, few positions in Canadian schools relative to numbers of applications, and relative ease of licensure in Canada for graduates of American programs is conducive to Canadians choosing to study dental hygiene in the U.S.

In the fall of 1989 a study was undertaken to determine the number and location of Canadians applying and being admitted to dental hygiene programs in the U.S., some demographic characteristics of those students, their reasons for studying in the U.S., and plans for practice after graduation.

Method

Program Surveys were distributed in the fall of 1989 to all U.S. dental hygiene programs listed in the American Dental Association Annual Report, Dental Auxiliary

Education 1988/89³. (N=196) Included with each Program Survey were four copies of the Student Survey, with a request that these (or copies, if necessary) be distributed to any Canadian students. Follow-up requests for Program Surveys were sent to non-respondents.

Results

One hundred and ninety-six Program Surveys were distributed. The total number of surveys returned was 167, for a response rate of 85.2 %. Forty four programs reported Canadian applicants in 1988; 55 programs in 1989 had Canadian applicants. The number of Canadian students admitted in 1988 was 62. The corresponding number in 1989 was 111 students. The distribution of Canadians enrolled in U.S. programs is indicated in Figure 1.

The numbers of reported Canadian applicants and first year admissions to U.S. dental hygiene programs for the years 1986-1989 are reported in Tables 1 and 2.

Forty-four students responded to the Student Survey. Because the actual number of Canadian students is not known, an accurate response rate could not be determined. In some cases program surveys indicated Canadian student enrolment but no student responses were received from that institution, and conversely, student responses were received from some non-responding programs. All respondents were female. Age ranged from 19 to 42 years, the mean age being 24.6 years. Eighty-one per cent of respondents were single; nineteen per cent married. Only three respondents reported having dependents: one, two and three dependents respectively.

A large majority (30 of 44) of the respondents were from Ontario (68.1%) Other provinces of origin were British Columbia(6) (13.9%), Alberta(4) (9.3%), Quebec(1) (2.3%), New Brunswick(1) (2.3%), and the Yukon(1) (2.3%). One respondent did not indicate a province of origin.

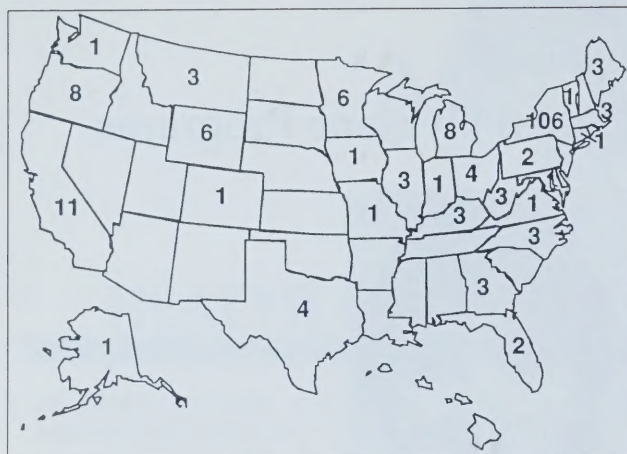


Fig. 1: Location of Canadians in U.S. Programs

Most students (33 out of 44) had applied previously to Canadian programs. The mean number of programs applied to was 5.4, and the range 1 - 13. On average, respondents had applied to Canadian programs for two years, (range 1 - 5 years). About half (24 out of 44) had applied to other U.S. programs as well as the one in which they were presently registered.

Students reported a number of factors influencing their decision to study in the U.S.: inadequate access to Canadian programs (48.8%); the reputation of the selected U.S. program (37.2%); program location (18.6%); availability of a degree program (16.2%); family influence (9.3%); and program size (4.6%). (Multiple responses produce more than 100%).

While most students intend to return to their province of origin to practice, 18% (8 of 44) indicated they intend to remain in the United States. Table 3 shows origin and intended practice location of respondents.

Students were asked for additional comments. Of those responding to this section of the questionnaire 64% (28 of 44) said they felt they should have been able to obtain their dental hygiene education in Canada. Nearly 20% indicated they were happy with their decision to study in the U.S. Fifteen percent said the system for educating dental hygienists in Ontario should be changed. Eleven percent said degree programs should be available in Canada.

All but one respondent indicated greater costs associated with studying in the U.S. as compared to Canada. Estimates of these increased costs ranged from \$2,000 to \$40,000.

Discussion

The response rate from programs was extremely high, (167 of 196) (85.2%), which permits a clear picture of recent trends in applications and admissions of Canadians to U.S. programs. The response for the student survey cannot be accurately determined because the true total number is not known. In comparison to the number of students reported by programs, however, the response rate is low (about 24.8%). Reasons for this may be speculated: perhaps many did not receive questionnaires from the programs; one program director indicated students were apprehensive that the survey was a precursor to more restrictive licensing requirements.

In 1989 the numbers of applicants to Canadian dental hygiene programs was vastly greater than available positions. Estimated ratios of applicants to positions are illustrated in Figure 2.

This admissions pressure is almost certainly influenced by current favourable employment opportunities and salaries for dental hygienists in Canada. In addition, the system of dental hygiene education in Ontario requires that those aspiring to careers in dental hygiene must first complete a period of education and practice as dental assistants without any guarantee that they will subsequently be able to enter dental hygiene. This has resulted in an increasing backlog of applicants in that province. American programs have indicated a willingness to enrol Canadian students. American-educated dental hygienists have relatively little difficulty in obtaining licences to practice in Canada. The result of these factors has been significant numbers of Canadians enrolling in U.S. dental hygiene programs.

Canadian programs have the capacity to prepare 538 graduands each year. In 1990 approximately 62 additional graduands from U.S. programs, 11.5% of the Canadian total, may be swelling that number. In 1991, the number may be 111 U.S. graduands or 20.6% of the Canadian total. Canadians admitted to U.S. pro-

TABLE 1. Canadian Applicants to U.S. Programs 1986-1989

Applicants per program																		
Year	0	1	2	3	4	5	6	7	8	9	10	12	15	18	20	40	Total	
1986	94	13	6	-	2	1	1	-	-	-	-	-	-	-	-	-	44	
1987	90	17	6	2	1	1	-	-	2	-	-	-	-	-	-	-	60	
1988	77	22	9	4	2	1	-	1	1	-	2	1	1	-	-	-	127	
1989	74	18	13	7	5	2	3	-	1	1	-	1	1	1	1	1	235	

Source: Program Survey

TABLE 2. First Year Admissions of Canadians to U.S. Programs 1986-1989

Applicants per program												
Year	0	1	2	3	4	6	9	12	24	30	45	Total
1986	109	10	-	-	-	-	-	1	-	-	-	22
1987	109	10	1	-	-	-	-	-	-	-	1	57
1988	97	18	3	-	2	1	-	-	1	-	-	62
1989	97	15	10	1	1	1	1	-	1	1	-	111

Source: Program Survey

TABLE 3. Province of Origin and Practice Intentions

Origin	INTENT					Total
	BC	Alberta	Ont	U.S.	Que	
British Columbia	3	-	-	1	-	4
Alberta	-	3	-	-	-	3
New Brunswick	-	-	-	1	-	1
Ontario	-	-	27	6	-	33
Yukon	1	-	-	-	-	1
Quebec	-	-	-	-	1	1
	4	3	27	8	1	43

Source: Student Survey

grams increased from 22 in 1986 to 111 in 1989, a five-fold increase. The indications are that this number will continue to grow.

It is ironic that this solution to the demand by Canadians for dental hygiene education is occurring at

pecially in Ontario. The phenomenon also raises issues of concern for Canadian dental hygiene education, not only in terms of numbers of available places in relationship to both employment opportunities and applicants, but also concerning the structure of dental hygiene education in Ontario.

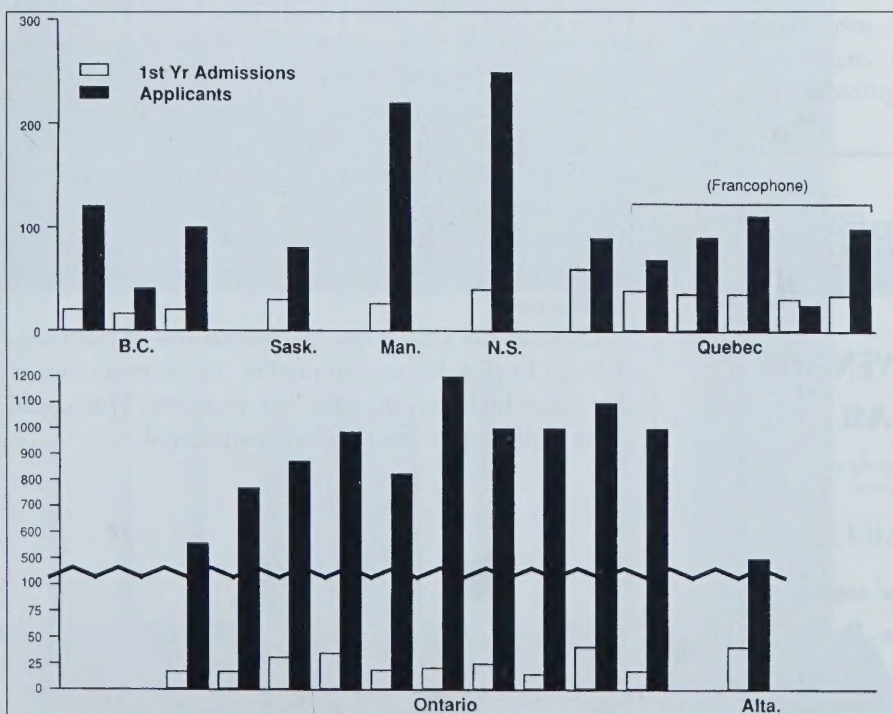


Fig. 2: Ratio of Positions to Applicants

the same time that some Canadian (Ontario) programs are being suspended. Dental hygiene employment opportunities in Canada continue to greatly exceed the numbers of available dental hygienists.

Conclusions

This is the first known study of Canadian students in U.S. dental hygiene programs. Although the response by programs was highly satisfactory, the response from students was too low to provide very definitive information. It is intended to re-survey programs and students on a continuing basis. Means of increasing student response rates need to be explored.

It is apparent that the number of Canadians studying dental hygiene in the U.S. will have a significant impact on dental hygiene human resources in Canada in the near future, espe-

cially in Ontario. One result of the present system in that province appears to be the creation of an ever enlarging body of persons, partially educated for dental hygiene, whose career aspirations are frustrated and who, by their own report, are bitter about this fact. ☹

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1. Bennett, I.C. and Boyd, M.A. First year enrollment of Canadians in North American Schools. *J. Can Dent Assoc.* 55: 631-35, Aug. 1989.
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3. American Dental Association, Council on Dental Education, Annual Report of Dental Auxiliary Education, 1988/89, Chicago, Illinois.

Book Reviews

Rubber Dam in Dental Practice

James S Reid, Paul D Calles, Colin JW Patterson.
First edition; Quintessence Publishing Co. Ltd.,
Chicago, Illinois. Copyright 1991. 92 illustrations,
indexed, 108 pages.

*Reviewed by Gregory A. Ames DDS, Instructor,
Division of Dental Studies,
College of New Caledonia, Prince George, BC.*

On rare occasions, a concise, contemporary, multi-purpose publication appears: Rubber Dam in Dental Practice is exactly that publication. As a practical handbook, a procedural manual, and as a reference textbook, this easy-to-read soft cover is ideally suited for students and dental practitioners of all disciplines who might well benefit from the use of rubber dam in their day-to-day practice. The 108 pages are clearly organized from history to rationale, to materials and methods, and to trouble shooting specific problem applications. The illustrations and diagrams are accurate and closely relate to the text.

This small volume is an easy to assimilate reminder that rubber dam is essential to the quality delivery of superior dental services. Because of its diminutive size and direct style, it is easy to read and absorb in a matter of hours. References are extensive and inviting for follow-up requirements.

This straightforward, inexpensive, soft cover edition is highly recommended for every astute assistants, hygienists, and dentist's library of required reading.

A Laboratory Manual for General and Oral Pathology

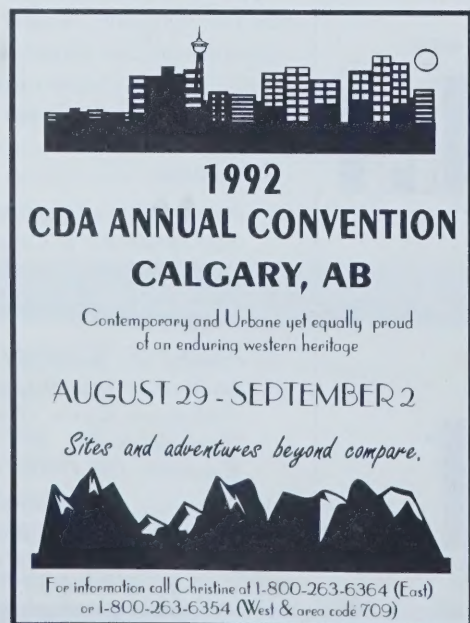
*Eda Shigeo, Hiroshi Fukuyama, Katsuya Kitamura,
Noriyuki Nagai, Nobuo Utsumi, Takeo Yamamura,
Shusaku Yoshiki. Quintessence Publishing Co.,
Hirose Ochanomizu Bldg., 4F, 2-1 Kanda Surugadai
Chiyoda-ku, Tokyo. Copyright 1990.*
445 illustrations, 257 pages. \$90.00.

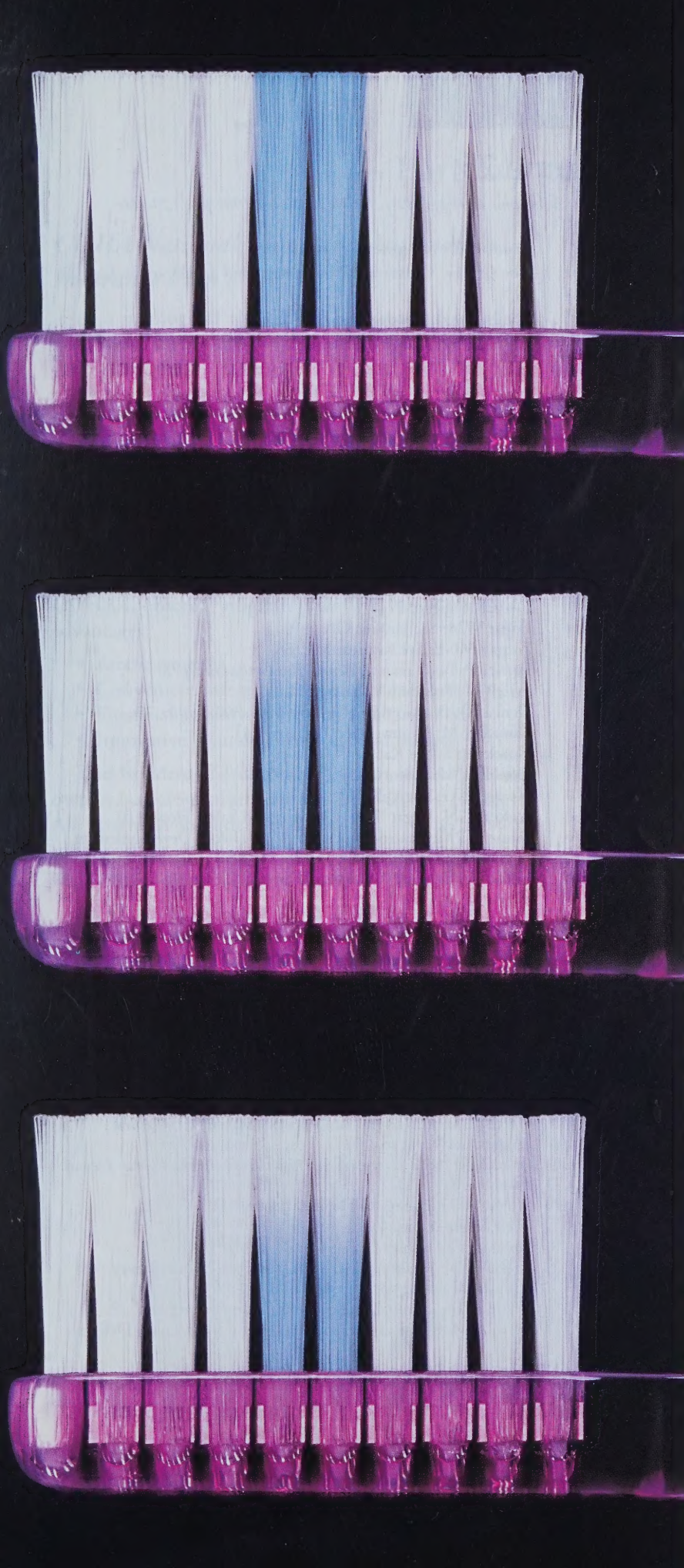
*Reviewed by Dr. T. Keith Milton, Instructor,
Vancouver Community College and University of
British Columbia, Vancouver, B.C.*

This is a pleasing book that would be a benefit for everyone in the profession of dentistry, including dental hygienists, denturists, dental students and dentists, medical personnel and specialists in pathology. It is well thought out and organized so that it would be easy to utilize in a clinical setting. It would have limitations for a first-time student to pathology. The biggest asset for this book is the visual contribution of the excellent pictures of the various lesions. The largest detriment is the text, as it is often incorrect, verbose and confusing. Another text would be required to obtain the didactic theoretical information.

The layout is well done both as to chapter organization and the positioning of the lesions with the accompanying text. The inclusion of laboratory techniques and descriptions of the preparation of the slides makes a valuable teaching contribution. I especially liked the differential diagnosis which was included for many of the lesions so that the reader could self-text and be aware of the similarities of clinical presentation. General pathology is handled well with the concepts then taken into the oral cavity where the student can see the application of these general principles to the specific area.

One has the feeling that the translation of the material into English has contributed to the shortcomings of the text which accompanies the pictures. This could prove confusing to the neophyte pathologist.





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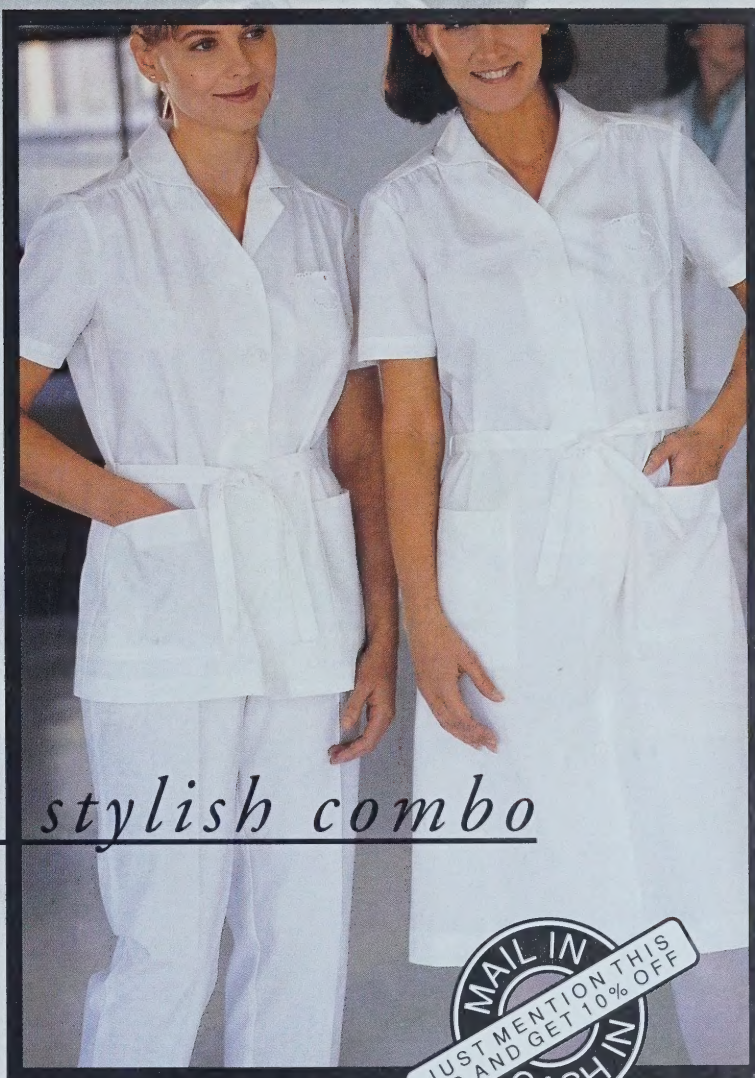
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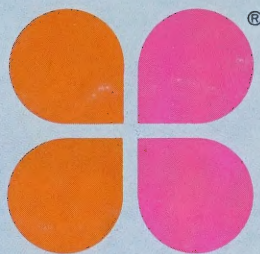
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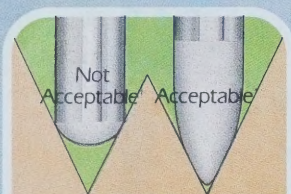
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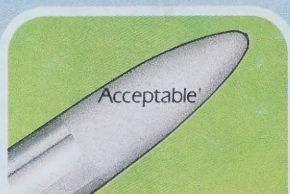
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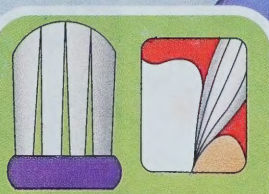
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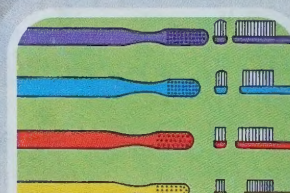
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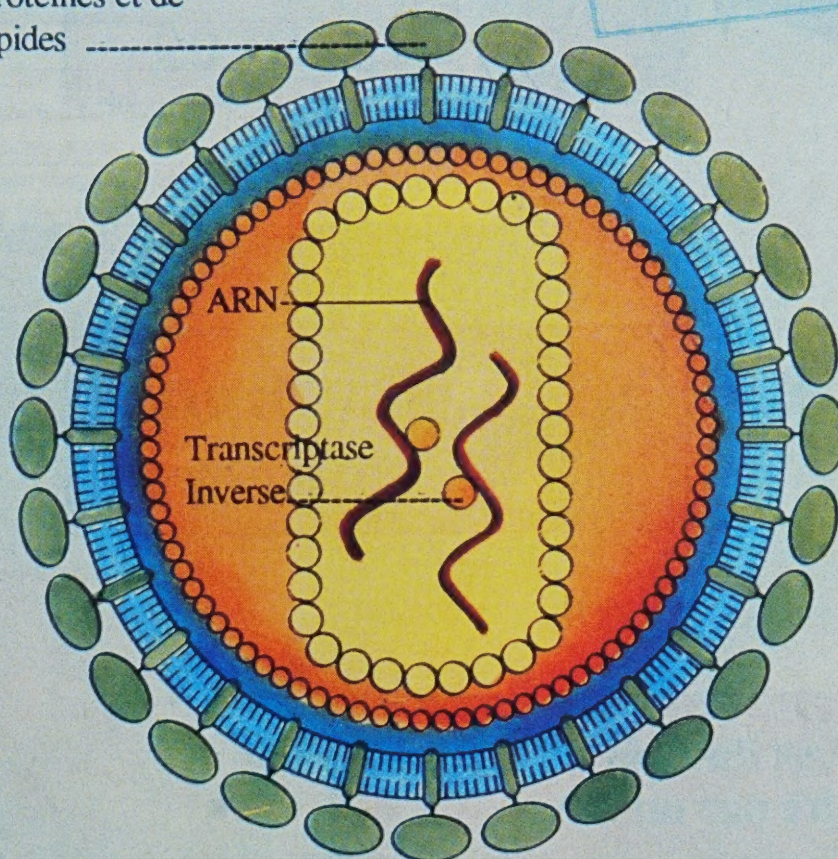
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Terry Mitchell, RDH, BSc, MEd



When I became a member of Executive Council, our association was in the throes of restructuring resulting from an extensive strategy planning session. Now, as I near the end of my presidential term, I can proudly look back and recognize the progress the Canadian Dental Hygienists Association has made.

We've completed about two and a half years under our new format. Our association has emerged from the restructuring process as a united group of professionals working toward goals established and supported by our members. As President, this structure has allowed me to draw upon the expertise of hygienists across Canada: I was not put into the position of making decisions that affect dental hygiene alone. Not only did I have the members of Executive to provide input, but I also had the members of various councils and the Board as a whole to help determine the wishes of the membership. It is encouraging to know that CDHA represents the majority view of dental hygienists across Canada.

If I had concerns about whether or not the goals of CDHA accurately reflected members' wishes, these certainly were allayed during my presidential visits. When I met with members of provincial associations, it was quite clear that the goals identified and priorities established by

the Board of Directors were, in fact, on target with provincial membership needs. Again and again, it was confirmed to me that the membership was behind the long-range planning of the Board.

It was also quite clear that dental hygienists across Canada are very aware of the public's need for oral health and overall health care. Continually dental hygienists put the needs of the public first and foremost. Dental hygienists prefer to practise in a collaborative practice setting, contributing toward the health of clients but helping the clients to take responsibility for their health. Dental hygienists are ready to accept responsibility for the care they provide. They want and deserve respect for their contribution toward their clients' overall health.

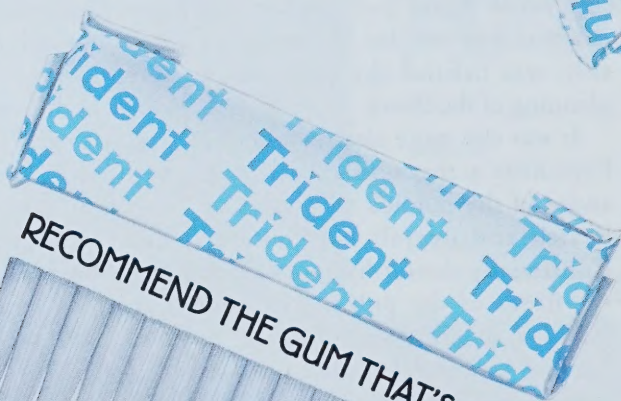
Dental hygienists are looking at the future trend for health care, and recognize the expanding role of the health care professional. Once again the Profession of Dental Hygiene is proving to be on the leading edge as hygienists are preparing themselves now. It stands to reason that our professional association wants position statements to reflect the changing roles of health care. For all of these reasons, and more, dental hygienists want governing acts to reflect the present realities of practice as well as the changes required

for future practice locations such as institutions and preventive community centres.

Our professional association is strong; our members are united; and our common interest is improved health for Canadians. To achieve this end, our Board of Directors established seven goals. These Board members work diligently to achieve the goals and realize that several small steps are required to reach any one goal. It is apparent our strategy is working. A greater number of Canadians are aware of the care dental hygienists provide; provincial governments are realizing hygienists are a professional body unto themselves; government agencies and allied health professionals are turning to hygienists for input into health care issues; corporations are asking to be involved in projects initiated by hygienists! The Profession of Dental Hygiene is maturing, and I'm proud to be a member of this profession. 🌱

CDHA Board of Directors 1992

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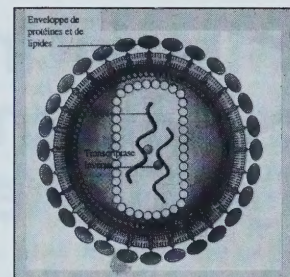


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Cover: slide illustration of the AIDS virus (HIV1) courtesy of Centre Québécois de co-ordination sur le sida. A protein coat surrounds the RNA molecule which carries the genetic code for the virus. Covering this nucleus is a lipid and protein envelope.

PROBE

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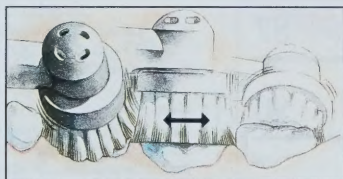
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Universal Precautions?



Marilyn Goulding, RDH, BSc

As reported in the January 1992 edition of the Explorer, the Laboratory Centre for Disease Control (Health & Welfare Canada), has instigated a series of meetings to deal with issues relating to the transmission of blood-borne infections — in particular, hepatitis B virus (HBV) and human immunodeficiency virus (HIV) — in health care settings. At the initial meeting it was agreed that Canadian infection control guidelines must be rigorously implemented in all health care settings, and that broader consultation was required in the effort to develop common guidelines for dealing with the management of health care workers infected with HBV, HIV or other blood-borne pathogens.

It is reassuring that Health & Welfare Canada is taking a proactive approach to the standardization and regulation of such guidelines. I am also encouraged to see that the professionals involved have been sought out to contribute to the overall effort. It will be interesting to hear the results of the ensuing meetings. I speak specifically of the right of health care workers (HCWs) to remain anonymous regarding their own HIV status. This has been a charged issue since the incident with the Florida dentist. My own inconclusive survey of colleagues shows a wide variety of opinion.

It has been previously reported that "our risk of dying from anesthesia during an operation is roughly ten times our chance of being infected by a surgeon known to be infected with HIV" (JAMA, March, 1992). One can clearly see the remote possibility the public faces from even an identified surgeon. But I ask you, at what statistic of remoteness does the public lose the right to make its own decision? Currently, risks greater than 1/20,000 must be disclosed. So does that mean safety at a risk of 1/19,000? I think this should be a matter of principle and not the arbitrary drawing of proverbial lines.

Let's face it: this is a matter of value for dollars. Can you imagine the burden on the health care system if we were to institute mandatory testing for all HCWs? How often would we undertake this testing — yearly, monthly, weekly? What would these tests tell us? According to statistics we can assume that we would find approximately 0.5% of HCWs currently seropositive, while others continue to become infected. The census is in constant flux; our information always outdated, but what are the alternatives?

Would all HCWs look favourably upon mandatory blood testing? What about those working specifi-

cally with identified HIV patients? Who would choose to voluntarily seek out a label that would change his/her life immediately? Why not live in ignorant bliss until some signs or symptoms appear? Professional responsibility you say, or professional suicide?

What assurances do HCWs have that retraining and redirection to other fields will be provided? Remember, it could be ten plus years before these people actually become ill and then some years thereafter before they become unable to work, or perhaps even die. Do we retrain them or is it more cost-effective to merely compensate them until death? It has been speculated that they should specialize solely in the treatment of HIV positive patients.

I wonder what the epidemiologists would think about the possibility of being able to collect the data generated by mandatory testing? Would these figures assist us in gleaned new insight to this virus? Perhaps this group should be included in the upcoming discussions.

As always we find ourselves wading, inch by inch, into this dilemma. It was only several years ago that the health profession deemed it too expensive to use gloves. Then we gradually waded in another step or two; first one pair per day, washing and rewashing, then one pair per patient. Now, granted, this is pretty much the status quo in most practices, but face masks took much longer and the battle of glasses is still being fought. How much contamination could we have avoided by just jumping in at the beginning, when the hepatitis virus first appeared? Impossible you say: Yes, I agree, and sadly so.

You will read, in this issue of Probe, about two institutions dedicated to the treatment of HIV

patients. There are several such hospital-based clinics across the country. They receive referrals on a daily basis; patients sent there because the general office isn't "set up" for their specialized treatment. What specialized treatment! These health professionals are saying they can't be bothered with proper infection control! The truth is, it cuts down on production. The irony is that they will eventually have to operate under the upcoming Universal Precautions (UP); why not do the right things now?

I do agree that our money should be spent in education and in developing Universal Precautions. Naturally we must know all the facts on transmission and infection control, but let's not stick our heads in the sand by insisting that what we know now about transmission is all there is to know.

Yes, it is tiresome and time consuming to remove your gloves to open that drawer, to pick up that pen, to scratch the corner of your eye. It costs you dollars in time when you disinfect and sterilize so thoroughly after each patient, when you keep a "clean-counter" for charts and patient education, and when you have a separate sharpening stone for each new appointment. Is it so important to institute each and every infection control procedure? Could you get by with a slight compromise on busy days? It's up to you. You are, after all, the health professionals who will go through the rationalizations and justifications to make the rules. Who will ever know if you break them? ■

CDA STATEMENT ON DENTAL HANDPIECES

The recommendations of both the Canadian Dental Association and the Atlanta Centres for Disease Control support the sterilization of dental handpieces. The CDA's existing infection control protocol deals specifically with the proper sterilization and disinfection of handpieces.

There are no scientific studies that confirm the transmission of infection through dental handpieces or any other dental equipment. A recent study by Lewis and colleagues which has been the subject of television and media review, does not confirm transmission of HIV or any other infection through dental handpieces.

The dental profession's foremost responsibility remains the health and safety of its patients. "Universal precautions", the foundation of CDA's policies on infection control, continues to be the most effective approach to preventing the transmission of disease. Scientific studies have not provided any basis for challenging the impressive evidence that universal precautions work.

IMPORTANT NOTICE TO DENTAL HYGIENISTS OUTSIDE B.C.

The College of Dental Surgeons of B.C. has developed a Waiver Program (exemption from all Board Examinations) for dental hygienists applying for Registration and Licensure for the period January 1, 1992 to December 31, 1994. Most dental hygienists will qualify if they are:

- 1) graduates of a dental program accredited by either the Canadian Dental Association or the American Dental Association;
- 2) not considered to be an unsuccessful candidate in their most recent Board Examination attempt in any province or state;
- 3) can provide a letter of good standing from the licensing jurisdiction in which they are currently, or last licensed and/or are graduates within the most previous year.

The College will also review each applicant's practising history prior to making a determination as to eligibility.

For more information, and to obtain application packages, please contact the Registrar, Dr. B. Rocky, 500-1765 West 8th Avenue, Vancouver, BC V6J 5C6: (604) 736-3621 or fax: (604) 734-9448.

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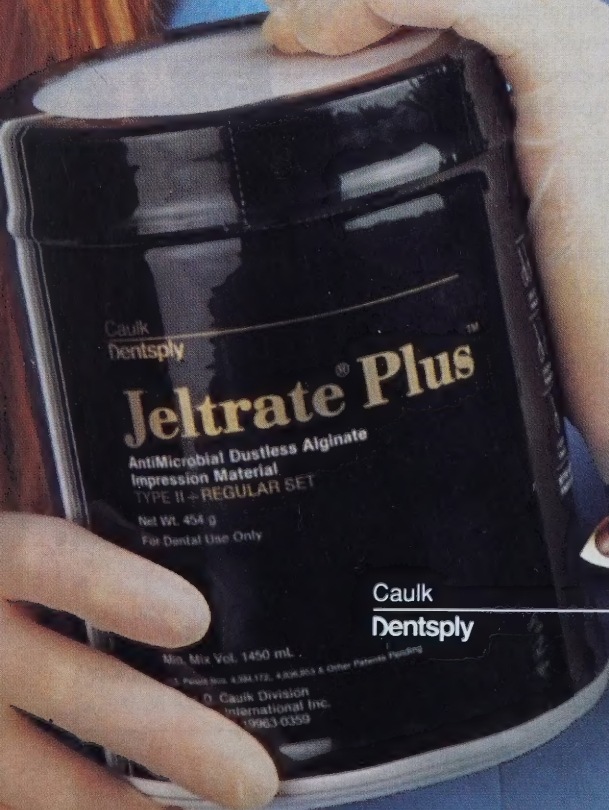
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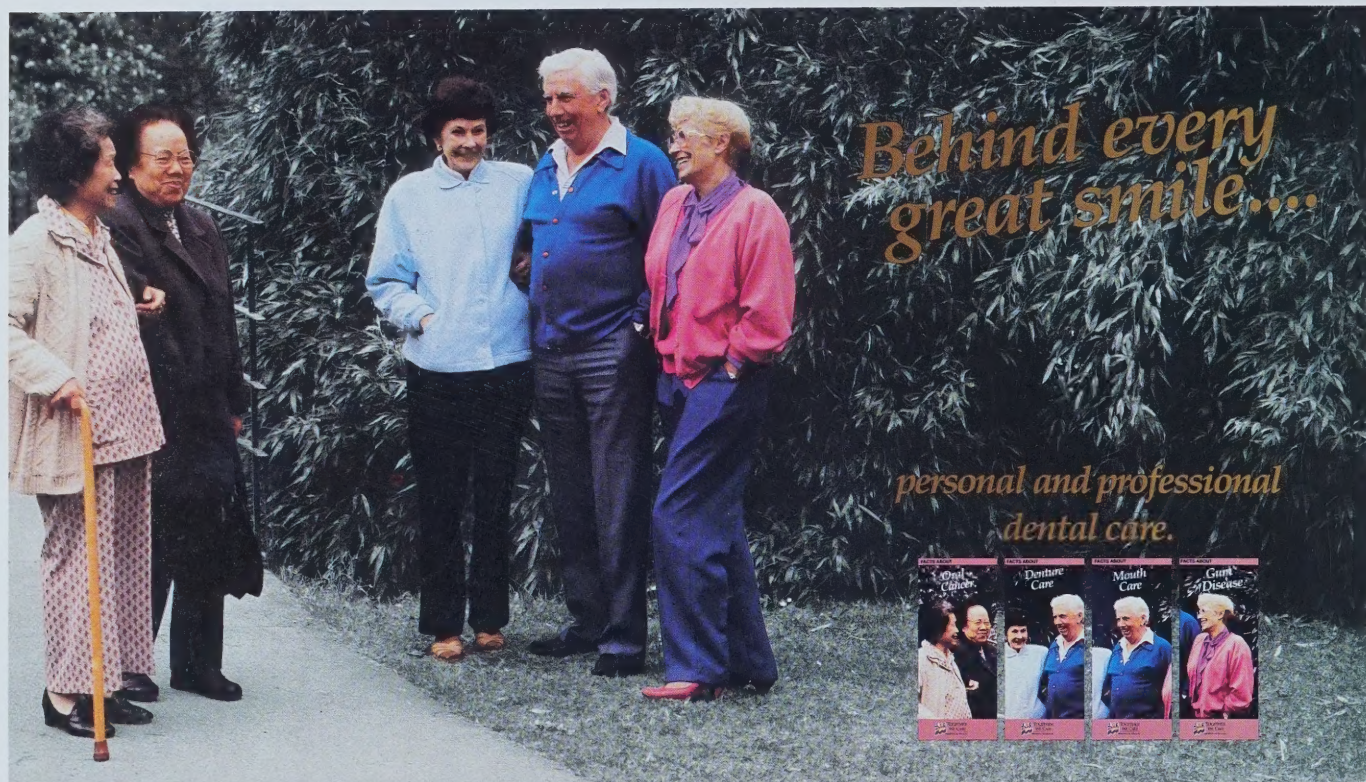
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National Dental Hygiene Campaign 1992 — October 18-24



We have an exciting campaign planned for this year. After a very successful 1991 campaign, we are ready for 1992.

CDHA has acquired from the B.C. Ministry of Health an exciting poster series developed by M.A. Hayes, RDH, entitled "Behind every great smile..." We plan to use this program for National Dental Hygiene Campaign as part of our three- to five-year plan. Each year, NDHC will focus on a specific age group — and this year's will be The Older Adult. There is a fantastic poster, and fact sheets, focusing on the older adult.

We believe having a focus will make it easier for you to carry your message to specific groups — this year, the Older Adult population.

We have listed a wide range of possible activities for the Older Adult for NDHC:

- Articles in seniors' magazines and other seniors' publications
- Denture ID clinics
- Cable TV programs
- Advertisements on buses and bus stop benches
- Displays/posters at public places: libraries, Y's, museums, art galleries
- Table clinics at The Legion, Veterans, 55 plus clubs, churches, et cetera

- Display fact sheets at pharmacies or place in the plastic table display in restaurants and coffee shops
- Visit nursing homes, lodges, and hospitals
- Articles in conjunction with grocery store flyers, e.g. Superstore
- Denture cleaning clinic
- Oral cancer table clinic
- Set up a booth at a farmers' market

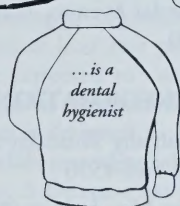
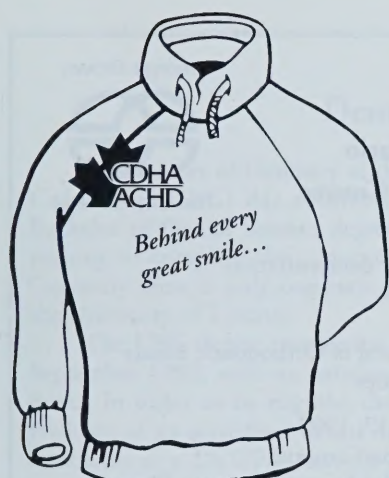
These are just a few suggestions for National Dental Hygiene Campaign.

Get your volunteers together and start to plan your campaign. List your objectives, order any necessary supplies, and be ready early!

For more information contact your regional co-ordinator — provincial co-ordinators will be listed in Autumn Probe:

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Prairie	— Laura Mowat	(403) 456-0977
Central	— Brenda Garant	(416) 728-2878
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By Phone: Evie Jesin any Thursday a.m.
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University of British Columbia Dental Hygiene Degree Completion Program

The Faculty of Dentistry at the University of British Columbia (UBC) has received approval to offer a Bachelor of Dental Science degree for dental hygienists wishing to complete their education in a relevant field. Currently there is only one such program in Canada, at the University of Toronto.

The UBC degree completion program will begin in September 1992, with an anticipated intake of five students. In order to be eligible, the candidate must be a graduate of an accredited dental hygiene program with a minimum of a 2.5 GPA, have 30 credits of university or equivalent in Biology, Chemistry, English and Psychology, and have at least one year of practice experience. Students are expected to complete the program within five years of initial registration.

The curriculum is designed to accommodate a wide variety of interests while providing advanced knowledge in basic dental sciences. A Director has been appointed, Ms. Bonnie Craig, and an in-depth curriculum workshop was

held the weekend of March 21, 1992. Attending this workshop were the principal players from UBC, and a strong representation from the dental hygiene community. The participants were clear that the curriculum needs to be futuristic and indicative of the roles that dental hygienists are assuming throughout the health continuum. The students will have the option of focusing on community health, advanced clinical practice or allied dental education and research.

The advent of this program is an exciting development for dental hygiene, and especially for those dental hygienists in Western Canada. Dental hygienists now have increased opportunities to pursue an expanded education in their chosen field, instead of having to choose a degree program in another discipline and then tailoring it to meet their needs.



Workshop Participants (Marcia Boyd — Photographer)

*Back Row: Paul Robertson, Marnie Forgay, Alan Lowe, Chris Clark
Middle: Shirley Bassett, Wendy Halowski, Ellen Stradiotti,
Susanne Sunell, Dianne Gallagher, Mary-Ann Hayes, John Silver
Front: Fran Cotton, Diane Slinn, Bonnie Craig, Peg Walsh*

Workshop participants — March 20 & 21, 1992

Shirley Bassett	Community dental hygienist Victoria President BCDHA	Alan Lowe	Head, Department of Clinical Sciences, UBC (Dept. in which new program resides).
Marica Boyd	Associate Dean, University of British Columbia (UBC), Chair, Task Force on Degree Completion	Paul Robertson	Dean, Faculty of Dentistry, UBC
Chris Clark	Chair, Division of Preventive & Community Dentistry, UBC	John Silver	Chair, Division of Periodontics, UBC
Fran Cotton	Chair, Division of Dental Studies, College of New College Vice-President, CDHA	Diane Slinn	Former faculty member UBC Dental Hygiene Diploma Program, currently in periodontal practice.
Bonnie Craig	Director, UBC Degree Completion Program Immediate Past-President, BCDHA	Ellen Stradiotti	Former faculty member UBC and Vancouver Community College (VCC) Dental Hygiene Programs, currently in periodontal practice
Marnie Forgay	Acting Director, University of Manitoba, School of Dental Hygiene	Susanne Sunell	Department Head, VCC Dental Hygiene Program
Dianne Gallagher	Co-ordinator, Dental Hygiene Program, Camosun College	Peggy Walsh	Associate Professor and Chair, Division of Dental Hygiene and Preventive Dentistry at the University of California, San Francisco — external critic of the UBC Degree Completion proposal
Wendy Halowski	Dental hygiene consultant Workshop facilitator		
Mary-Ann Hayes	Manager, community-based dental programs, B.C. Ministry of Health		

International Dental Hygienists' Federation

Objectives

The objectives of the International Dental Hygienists' Federation are:

- To promote access to quality preventive oral health services to all people.
- To represent and advance the profession of dental hygiene on a non-governmental, world-wide basis.
- To promote and co-ordinate the exchange of knowledge and information about the profession and its education and practice.
- To raise the level of awareness of the public that oral disease can be prevented through proven regimens.
- To foster the exchange of dental hygiene human resources.

Human Rights Statement

The International Dental Hygienists' Federation supports the statement of the United Nations' Human Rights of the International Bill of Rights. The International Dental Hygienists' Federation supports preventive oral health services for all people as part of total health.

Member organizations of the IDHF demonstrate support for freedom of all citizens to participate fully in dental hygiene without distinction of any kind such as race, colour, sex, language, religions, political or other opinion, national or social origin, property, birth or other status.

Areas in which equal rights to full participation as a dental hygienist shall be demonstrated include education, regulation, practice and professional affiliation.

All citizens of the country of origin of member organizations of the IDHF are assured access to health, including oral health services without distinction on the basis of race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.



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Pat Johnson, PhD (Canada)
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Invitation for Individual Membership

Dental hygienists who are members of national dental hygienists' associations which are IDHF Organization Members are invited to participate in the **International Dental Hygienists' Federation** as individual members.

Membership includes quarterly issues of the IDHF newsletter "**Contact International**", and advance information on International Symposia on Dental Hygiene and other meetings of international interest.

Cheque or bank draft for \$50.00 U.S., payable to The International Dental Hygienists' Federation should be mailed to:

Jo Gardner, IDHF Secretary/Treasurer,
P.O. Box 151, Madeira Park, B.C., V0N 2H0 Canada

Or funds may be sent by cheque or bank draft directly to the following address, with a copy of the transaction sent to Jo Gardner, Secretary/Treasurer:

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**12th International Symposium on Dental Hygiene,
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Canada's first hospital dental clinic for patients with HIV infection



*by Christine Wooley, RDH,
John Abbott College School
of Dental Hygiene, 1983,
presently completing a
bachelor of science, major
biology psychology, at
Mount Allison University.*

Introduction

The Sir Mortimer B. Davis-Jewish General Hospital (JGH) dental clinic in Montreal, Quebec, was founded as part of the Jewish General Hospital in 1934. At that time, the clinic operated three one half days a week and treated ambulatory and in-hospital patients for emergency dentistry only. The dental staff consisted of volunteers and the emergency treatment was free of charge. Treatment was directed towards the indigent of Montreal.

In 1968, the program was expanded and a dental residency program was initiated which included comprehensive dentistry. At present, the JGH dental department consists of three geographic full-time dentists and a teaching staff of 42, including specialists in all disciplines of dentistry. The general practice residency program trains seven dentists annually and is affiliated with McGill University, Faculty of Dentistry.

The dental clinic is completely computerized and records over 15,000 patient visits annually. It is affiliated with McGill University Faculty of Dentistry, Ohio State University Faculty of Dentistry, John Abbott College School of Dental Hygiene, Ste. Anne's Veteran's Hospital in Ste. Anne-de-Bellevue, Quebec, Maimonides Hospital Geriatric Centre, and Father Dowd Geriatric Centre in Montreal. The dental department and the general practice residency program are accredited by the Canadian Dental Association and the Order of Dentists of Quebec.

History

Implementation of new ideas and techniques has been characteristic of the dental department at the Jewish General Hospital. The first Canadian dental hygiene resi-

dency program was established in 1983 in affiliation with the John Abbott College School of Dental Hygiene. In 1984, a team of specialists went to Goteberg, Sweden, to be trained in the Branemark implant technique. This was then brought back to the hospital where it was introduced into the residency program.

In 1985, the dental department established a separate clinic to treat oral diseases in Human Immunodeficiency Virus (HIV) seropositive patients. At that time there was not the intense involvement with this disease by the dental profession as exists today. The patients were examined and conservative treatment was established. During the next two years, the dental hygiene residency co-ordinator and the hygiene residents gradually became involved in both research and treatment.

The department was awarded a grant from National Health and Welfare for a research protocol entitled "Oral Manifestations of AIDS" which continued over the next two and a half years. The dental hygienists were intimately involved in carrying out many of the observations which were extremely important for the relevance of this research. Today the senior dental hygienist treats HIV seropositive patients three half days each week, while the dental hygiene resident treats these patients one half day each week.

HIV Clinic

In 1985-86, the JGH dental clinic was the only dental facility in Montreal that willingly and knowingly treated HIV seropositive individuals. Initially, only one to two patients were seen per week, but as the disease spread, the reputation of the dental clinic as a dental treatment centre within the medical and dental communities, and among the HIV support groups became known.

It is important to note here that with experience the techniques employed changed. The dental hygienists began by following the usual hepatitis B precautions of excluding the use of ultrasonic scalers due to the large amount of aerosols which are routinely created. As the dental hygiene team became more familiar with the disease, it became clear that it would be prudent to become more cautious and eliminate the usual routine polishing along with all other procedures which could cause airborne contaminants. Every six months a selective polishing is done with a disposable prophylaxis angle while the operator wears a face shield for protection from the aerosols. At the three month recall, when



Figure 1: HIV-P is present from tooth #41 - #33. HIV-G is seen on the mesial buccal gingiva beside tooth #43 and spreads into the unattached mucosa.



Figure 3: Angular cheilitis with small white plaques. Kaposi's sarcoma seen as a bluish, blackish, reddish macule which is elevated and lobulated.



Figure 2: Pseudomembranous oral candidiasis on the labial mucosa along with angular cheilitis.

deemed necessary, prophy paste is placed on a toothbrush and the dental hygienist brushes the patient's teeth. This improvised polishing minimizes the aerosols created yet leaves the patient with a fresh taste and clean feeling.

Oral Lesions

HIV increases an individual's susceptibility to a number of diseases. These diseases become apparent when the immune system shows signs of compromise. The American Centres for Disease Control (CDC) has defined the acquired immunodeficiency syndrome (AIDS) risk groups for adults as including:

1. Homosexual/bisexual men;
2. Intravenous drug abusers;
3. Haemophiliacs or those persons requiring regular blood transfusions or blood products;
4. Individuals who have sexual contacts with AIDS high risk groups; and

5. For children, born to a woman who is HIV seropositive.¹

The dental hygienist is often the first person on the dental team to examine new and recall patients. When updating the medical history, questions should be asked concerning sexual preferences, history of hepatitis B and venereal diseases. It is difficult in the general dental office to screen HIV seropositive individuals using their medical history, since many may not know of their infectivity. Therefore all patients should be treated as potential HIV carriers. It is important for the dental hygienist to be aware of the oral lesions which are commonly reported clinical predictors of HIV infection in the otherwise healthy individual.

It is believed that HIV-associated periodontal disease, oral candidiasis, herpes simplex virus, orofacial herpes zoster, Kaposi's sarcoma, and oral hairy leukoplakia are the most common and significant oral lesions.^{2,3} The most relevant to the dental hygienist are two oral lesions (see Figure 1) which are uniquely HIV-related; HIV-associated gingivitis (HIV-G) and HIV-associated periodontitis (HIV-P). The HIV-G is an atypical generalized gingivitis which is characterized by being bright red, edematous, and is not limited to the attached gingiva but extends onto the unattached mucosa. The dental hygienist may notice this type of gingivitis due to the fact that it does not respond to improved oral hygiene. The rapidly progressive periodontitis characteristic of HIV-P is similar in clinical appearance to acute necrotizing ulcerative gingivitis (ANUG).⁴ A lack of probing depth is a distinguishing feature of HIV-P because the rapid soft tissue necrosis occurs simultaneously with the bone loss.⁵ These two types of periodontal diseases will be seen most often in the dental office since they are of a longer duration, and will not resolve on their own.

Oral candidiasis was described in the first reported cases of AIDS.⁶ The clinical appearance of oral candidia-



Figure 4: Herpes Simplex Virus, a large lesion on the upper right lip.



Figure 5: Orofacial herpes zoster following the nerve distribution.



Figure 6: Protect clothing by using disposable gowns.

sis varies greatly since it is manifested in four ways as pseudomembranous, erythematous (atrophic), hyperplastic, or as angular cheilitis.⁷

Pseudomembranous candidiasis, or thrush, is seen as creamy white or yellowish plaques on a red or normal coloured mucosa (Figure 2). These whitish plaques are easily removed by wiping with gauze to reveal a raw bleeding surface. The most frequently affected areas in the oral cavity are the palate, buccal and labial mucosa and the dorsum of the tongue.^{8,9}

The erythematous atrophic type of lesion is characterized by a red appearance whose colour intensity may vary from fiery red to a small pink spot. It is usually located on the palate and/or dorsum of the tongue, but may also appear on the buccal mucosa. It should be noted that the latter is the most common site in HIV infection, while the former two areas are the usual sites of multifocal candidiasis in heavy smokers.^{8,9}

Chronic hyperplastic candidiasis is characterized by white plaques which cannot be removed by wiping. In the HIV seropositive individual the most common location is the buccal mucosa. For patients not infected with HIV, this lesion is most often found in the commissures (the angles of the mouth).^{8,9}

Angular cheilitis often affects the elderly but is not often seen in the young, therefore when it is observed in persons less than fifty years of age, it could be an early sign of HIV infection. The lesion is characterized by fissures radiating from the angles of the mouth and is often associated with small white plaques as is shown in Figure 3.^{8,9}

The herpes simplex virus (HSV) is classified as HSV-I and HSV-II depending on their primary site of manifestation, orally or genitally respectively, but they may infect at either site. HSV-I is usually transmitted during childhood, while HSV-II is typically transmitted after puberty. Recurrent lesions are most likely to appear again at the original site of infection. They typically begin with a tingling sensation and discomfort in the site of the developing lesion. These type of lesions

begin developing with clusters of 1 mm vesicles that eventually rupture to form ulcerations, followed by coalescence into a larger ulcer as seen in Figure 4.¹⁰

Orofacial herpes zoster, known as shingles (Figure 5), is a manifestation of the reactivation of the latent varicella-zoster viral infection (chicken pox). It is not highly infectious but since the virus is present lesions should be covered. Unless the patient's symptoms are severe, the presence of these lesions is not a contraindication for dental care, either for patients or providers.¹⁰

Kaposi's sarcoma is a multicentric neoplasm arising from vascular endothelium. In the oral cavity it can be found almost anywhere, although it is seen most commonly on the hard palate. Initially, it appears as bluish, blackish, or reddish macules which later become darker, elevated, lobulated, and ulcerated (Figure 3). These lesions are usually painless unless ulcerated.⁸

Oral hairy leukoplakia, a uniquely HIV-related oral epithelial hyperplasia, had never been described before the AIDS epidemic.¹¹ It is usually found on the lateral borders of the tongue, but may occur in other oral locations, such as the soft palate, buccal mucosa, and the floor of the mouth. The lesion has the characteristic appearance of being white, raised, poorly defined and does not wipe off. As well, it may be confused with other white lesions. The presence of the Epstein-Barr virus is necessary to confirm a diagnosis.^{2,8} This confirmation can only be done through a biopsy. Essentially all patients with OHL are HIV positive and are infectious with 80 per cent, eventually developing full-blown AIDS.^{3,12}

Infection Control

Health and Welfare Canada states that the epidemiologic evidence has implicated only blood and blood products, semen, vaginal secretions and breast milk in

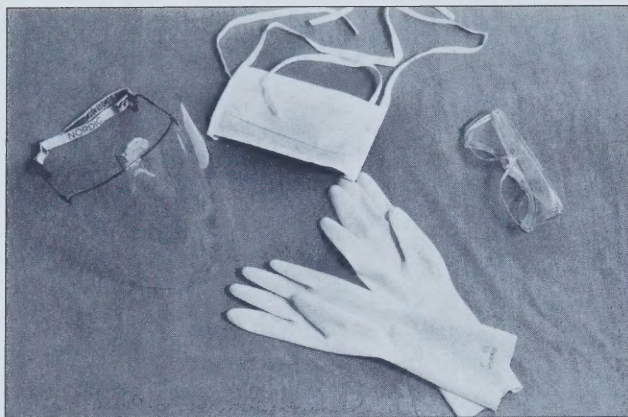


Figure 7: Protective barriers such as gloves, glasses, masks, and face shields should be used routinely.

transmission, even though the virus has been isolated in almost all body secretions and excretions.¹³ The explanation for this is the quantity of virus must be at a certain level before infectivity can occur.

It is essential that all patients are treated as potential carriers of the virus. The infection protocol used at the JGH clinic was adapted from the recommendation of Health and Welfare Canada and the CDC. These precautions will prevent the transmission of all blood-borne infectious diseases. Take the following precautions routinely:

1. **BLOOD AND OTHER BODY FLUIDS** should be isolated by utilizing the following barriers: (Figures 6 & 7)
 - gloves
 - gowns
 - masks
 - eye protection/face shield
2. **SHARPS** (all sharp items such as needles, scalpel blades, matrix bands or any other clinical items which can cause a cut or injury) should be placed in rigid-walled, puncture-resistant containers placed as close as practical to the area in which the "sharps" are used (Figure 8).¹⁴ Needles should not be recapped by hand



Figure 8: Sharps should be placed in rigid-walled, puncture-resistant containers.

as shown in figure 9. The proper method of recapping needles is via a needle safety shield shown in Figure 10.¹⁵

3. **CONTAMINATED SURFACES** should be decontaminated with a 0.6 per cent sodium hypochlorite (Javex) 1 in 10 solution (1 part Javex to 9 parts water). The solution should be left on the surface for 10-30 minutes or until initially well-moistened surfaces are dry. Dental equipment and surfaces that are difficult to disinfect (e.g., light handles, three way syringe, chair adjustment buttons, or X-ray unit heads), and that may become contaminated should be wrapped with impervious-backed paper (Figure 11), aluminum foil, or clear plastic wrap. The coverings should be removed and discarded, and clean coverings should be put in place after use with each patient.
4. **INSTRUMENTS** should be placed, immediately after use, in a basin of sodium hypochlorite 1/10 solution for 3-4 minutes to reduce the risk of infection if any accidental puncture occurs. Next, they should be brushed using an anti-bacterial soap (e.g. hibitane; the operator should be wearing heavy duty rubber gloves and a mask), and then placed into the ultrasonic bath, which contains a special disinfectant ultrason-

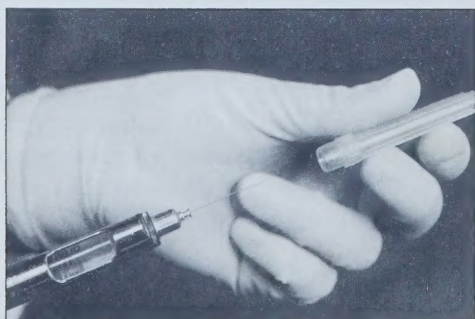


Figure 9: Never recap a needle without proper protection.

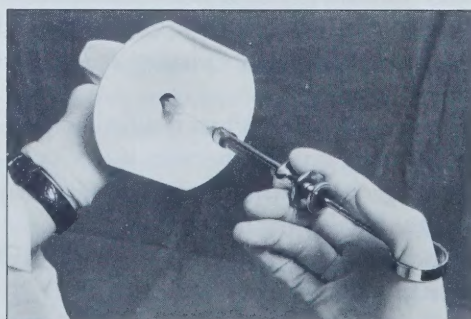


Figure 10: Recap needles using safety barriers.



Figure 11: Surfaces are easier to decontaminate when covered with imperviously backed paper.

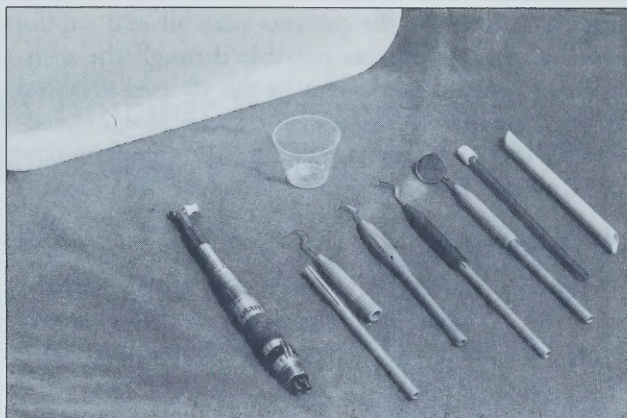


Figure 12: Disposables are the most hygienic way to treat patients. Examples are: the rubber polishing cup, instruments, dappen dishes, saliva ejectors and suction tips.

ic solution, for 12 minutes before sterilization. In the case of equipment which cannot resist heat or chemical autoclaves the use of a 2 per cent glutaraldehyde solution is acceptable, but is not considered to sterilize unless used for 10 hours at room temperature.¹⁶ When knowingly treating HIV seropositive patients it is best to use single ended (if possible, disposable) instruments (Figure 12), which will minimize the risk of accidental instrument sticks.

5. **HANDPIECES** should be heat sterilized (autoclave) after use with each patient, since the blood, saliva, or gingival fluid of patients may be aspirated into the handpiece or waterline.¹⁷ Handpieces should also be flushed for 2 minutes at the beginning and end of the day. The same precautions should be used for ultrasonic scalers and air/water syringes.¹⁸
6. **DISPOSABLES** should be used wherever possible and then discarded after each patient. Some examples are shown in figure 12, such as rubber polishing cups, prophy angles, saliva ejectors, plastic dappen dishes, et cetera.¹⁶

OTHER UNIVERSAL PRECAUTIONS

1. Health-care workers who have exudative lesions or weeping dermatitis should refrain from all direct patient care and from handling patient-care equipment until the condition resolves.¹⁰
2. Hands should be washed immediately and thoroughly if contaminated with blood or other body fluids. Immediately wash hands after gloves are removed. The CDC recommends: washing with a germicidal soap for 15 seconds, then rinsing for 15 seconds, 3 times before and after treating each patient.
3. Gowns or uniforms should be washed at a high temperature (60-70°C) using normal bleach followed by machine drying at 100°C. Place soiled uniforms/gowns in a plastic bag for transport. Shoes are a part

of one's uniform and should be worn in the operator only and kept in the dental office.¹⁷

Conclusion

Dental hygienists often do not think of a prophylaxis as an invasive procedure. The CDC and Health and Welfare Canada define an invasive procedure as the manipulation of any oral or perioral tissues during which bleeding occurs or the potential for bleeding exists. Blood, saliva, and gingival fluids from all dental patients should be considered infective.¹³ Even during the simplest of prophylaxes, the potential for bleeding exists, therefore it is very important for the dental hygienist to adhere to all the recommended precautions to avoid both cross and self contamination.

The Royal College of Dental Surgeons of Ontario recommended in May 1989 that "Effective dental treatment can be rendered in the dental office to most patients with infectious diseases by following established infection control practices. Medically compromised patients in advanced stage of infectious diseases may require specialized facilities for proper treatment and management."¹⁴ This is the rationale for facilities developed at clinics such as the JGH dental clinic. The intention is to treat full-blown AIDS cases, which are difficult if not impossible for the general dental office to treat. However, it would be impossible for a facility such as the JGH dental clinic to treat every HIV seropositive individual in the city of Montreal, not to mention outlying areas.

Today, the JGH dental clinic continues humanely and routinely to treat HIV seropositive patients. There are two main objectives to the treatment rendered for the patients. The first objective is the containment of atypical generalized gingivitis and rapidly progressive periodontitis. This is accomplished through rigid oral hygiene practices via a three month recall program and intensive oral hygiene instruction sessions. The second

objective is to make the patients with all oral painful lesions as comfortable as possible through the techniques of gentle debridement in the affected area and chlorhexidine rinses. The Jewish General Hospital dental clinic should be commended for the compassionate way in which HIV seropositive individuals are treated.

Acknowledgements:

I thank Dr. Mervyn Gornitsky and Ms. Nathalie Iuliani,hd, at the Sir Mortimer B. Davis-Jewish General Hospital for their helpful input and technical support.

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A Hospital-based Dental Clinic for Patients with HIV infection in the United States



by
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One of the first hospital-based dental clinics devoted exclusively to the treatment of patients with human immunodeficiency virus (HIV) infection is in the Spellman Center for HIV-related diseases, a division of St. Clare's Hospital, affiliated with New York Medical College. St. Clare's Hospital, located in the Clinton section of New York City, is a non-profit, non-sectarian institution, operated under the auspices of the Roman Catholic Archdiocese of New York City.

In 1985, John Cardinal O'Connor made a commitment to provide a treatment center for patients with acquired immune deficiency syndrome (AIDS). The Spellman Center offers comprehensive medical care in an atmosphere that is warm, compassionate, and non-judgmental.

Organizational Structure of the Spellman Center

The Spellman Center is directed by a board-certified internal medicine specialist. The medical director supervises a multidisciplinary team of health professionals made up of internists, a hematologist/oncologist, neurologist, dermatologist, gastroenterologist, psychiatrist, nurses, dietitians, respiratory therapist, dental hygienist, and dentists. Nurses, in a one to six patient ratio, provide intensive nursing care. The team of physicians and nurses is supported by the house staff and physicians' assistants of St. Clare's Hospital. The Center includes the outpatient clinic, ambulatory infusion program, emergency services, and dental clinic. There is a 90-bed acute care unit and a 5-bed intensive care unit.

Additional psychosocial services are supplied by a support staff consisting of a case manager, a patient educator, a patient advocate, pastoral care person, and social workers. The case manager assumes overall responsibility to assure that a patient receives continuity of care. The

patient educator helps the patient learn about the nature of the HIV infection and how to prevent its transmission. The patient advocate assists the patient in handling personal matters such as preparation of legal documents and transportation. Social workers help with housing arrangements and entitlement to governmental benefits. Social workers also meet with support groups for patients, families, and caregivers.

Outpatient and Inpatient Services

Specific criteria exist for treatment of patients at the Spellman Center for HIV-related diseases. Patients may be treated on an outpatient basis or may be admitted to the inpatient unit.

Outpatients include those who have been diagnosed with HIV infection and are being followed routinely or are having treatments such as intermittent amphotericin B infusions for cryptococcal meningitis, chemotherapy and radiation for Kaposi's sarcoma, aerosol pentamidine for prevention of *Pneumocystis carinii* pneumonia (PCP) or transfusions of blood products. Individuals who believe they may have contracted HIV infection may request an appointment for testing, examination, and counseling.

Patients who are admitted to the Spellman Center for inpatient treatment are those with confirmed HIV infection who require care for acute symptoms. Other patients have acknowledged risk behaviours and present with a fever, or other symptoms such as bilateral pulmonary infiltrates, headaches and/or neurological signs/symptoms, chronic diarrhea, lymphadenopathy, or oral candidiasis.

Dental services are provided for outpatients and inpatients. Frequently the dental hygienist is called upon to initiate personal preventive oral care for a hospitalized patient.

Dental services include biopsy and/or culture of specific HIV-related oral lesions as well as the treatment and monitoring of oral conditions. The dentists participate in

case management and attend hospital rounds and team meetings with the physicians. Specific consultation is provided when HIV-related oral lesions are present.

The palatal or gingival lesions of Kaposi's sarcoma (KS) may be the initial oral indication of an HIV infection. A case presented by Andriolo and Lazarus¹ illustrates the effective team management of such a patient. Tissue from a large, purple, exophytic, palatal lesion was removed in the dental clinic and sent to the pathologist for diagnosis. The lesion was reported to be KS and the patient was referred to the oncologist. Radiation therapy was initiated and one month following therapy no tumor was evident in the oral cavity.

The Dental Clinic

In 1987, St. Clare's Spellman Center established the dental clinic as an extension of its dedicated AIDS-care unit. The development of the two-chair dental clinic was in response to an urgent need because patients with HIV infection were being denied dental treatment in the private sector of dental practice. Seed funding to renovate and equip the dental clinic was provided by the Alfred E. Smith and Altman Foundations, and the Cummings Memorial Fund.

Dr. Mario Andriolo, Jr., was the founder of the Dental Clinic and the Director of Dentistry at St. Clare's Hospital. The dental staff consists of two general dentists, a periodontist, a dental hygienist, and two dental assistants.

Patient Population and Services of the Dental Clinic

There is an average of 25 new patients for oral diagnosis and treatment each month. Patients who seek dental care are generally between the ages of 25 and 40 years. Approximately 50 per cent of the patients are homosexual or bisexual males and 50 per cent are intravenous drug users (IVDU) or their spouses. The services offered at the clinic include routine preventive and general dental treatment as well as evaluation, observation, and treatment of HIV-related oral lesions and conditions.

According to Andriolo,² 88 per cent of the patients examined have the presence or history of one or more lesions related to HIV infection. Oral conditions may include opportunistic fungal, bacterial, or viral infections, neoplasms, neurological disturbances, and other problems (Table 1). Soft tissue lesions and rapidly progressive gingival and periodontal infections require the specific attention of the dentists and the dental hygienist.

A new patient is first seen by the dental hygienist for radiographs. At the next appointment, a full head and neck and oral examination is performed, oral pathology is documented, carious lesions are charted, and a periodontal evaluation is made by the dentist. When there are obvious periodontal problems, the patient is seen by the consulting periodontist and the specific treatment plan is outlined and implemented.

Comprehensive treatment is provided. Although the course of the disease will vary from patient to patient, a long period of chronic illness can be anticipated. Oral care is necessary for comfort, function, and the prevention of bacterial plaque diseases, both dental caries and periodontal infections. Painful oral lesions and tooth loss interfere with a patient's food selection and mastication which can significantly influence general health. Since AIDS is a wasting disease, dietary intake has direct impact on a patient's well being.³ Appropriate management of oral conditions contributes to the improvement of the overall quality of life for the patient.

The dental hygienist plays an important role in the periodontal prevention and treatment program by presenting oral care instruction and providing nonsurgical periodontal therapy. Multiple appointments are usually required. Conventional bacterial plaque control with definitive scaling, root planing, and soft tissue curettage usually have been insufficient for patients with rapid progressive periodontal disease. When daily 0.12 per cent chlorhexidine gluconate mouthrinses and an antibiotic regimen of metronidazole and amoxicillin are used, patients have shown remarkable improvement in a relatively short treatment period.⁴

Periodontal surgery may be indicated. The dental hygienist performs scaling and root planing in preparation for the surgery and assists the periodontist during the surgical procedures. The postoperative follow-up is carried out during the dental hygiene appointments. All patients need continuing motivation and frequent reinforcement for oral hygiene. The maintenance phase of periodontal therapy is especially important because a patient with a compromised immune system is at high risk for gingival and periodontal infection, and the course of healing may be slowed. Frequent appointments, at no longer than 3-month intervals, are scheduled. At each appointment examination for opportunistic oral manifestations and evaluation of existing oral conditions are carefully carried out.

Infection Control

Infection control at the Spellman Center is based on the philosophy that there must be one standard protocol used for all patients in any dental setting. Patients with HIV infection must not feel that a different standard of infection control is being practiced for their appointments. The standard of infection control practiced is that defined to prevent hepatitis B virus (HBV) transmission since HBV is more virulent than HIV.

HBV is a highly transmissible virus and is prevalent in the general population who seek dental treatment. Since many patients do not realize that they carry HBV, all patients should be considered potential carriers. Similarly, many patients do not realize that they carry HIV; therefore all patients must be considered potential carriers.

TABLE 1. Classification of Oral Lesions Associated with HIV Infection

Group 1 — Lesions strongly associated with HIV infection

- Candidiasis
 - Erythematous
 - Hyperplastic
 - Pseudomembranous
 (Note: Angular cheilitis is often associated with *Candida albicans*)
- Hairy leukoplakia (EBV)
- HIV-gingivitis
- HIV-necrotising gingivitis
- HIV-periodontitis
- Kaposi's sarcoma
- Non-Hodgkin's lymphoma

Group 11 — Lesions definitely but less commonly associated with HIV infection

- Atypical ulceration
- Idiopathic thrombocytopenic purpura
- Salivary gland diseases
 - Dry mouth due to decreased salivary flow rate
 - Unilateral or bilateral swelling of major salivary glands
- Viral infections (other than EBV)
 - Cytomegalovirus
 - Herpes simplex virus
 - Human papillomavirus (wart-like lesions)
 - Condyloma acuminatum
 - Focal epithelial hyperplasia
 - Verruca vulgaris
 - Varicella-zoster virus
 - Herpes zoster
 - Varicella

Group 111 — Lesions possibly associated with HIV infection

- Bacterial infections (excl. gingivitis/periodontitis)
 - Actinomyces*
 - Enterobacter cloacae*
 - Escherichia coli*
 - Klebsiella pneumoniae*
 - Mycobacterium avium intracellulare*
 - Tuberculosis
- Cat-scratch disease
- Ectopic geographic tongue
- Epithelioid angiomatosis
- Exacerbation of apical periodontitis
- Fungal infection other than candidiasis
 - Aspergillus flavus*
 - Cryptococcus*
 - Geotrichosis
 - Histoplasmosis
 - Mucormycosis
- Lymphomatoid granulomatosis
- Melanotic hyperpigmentation
- Neurologic disturbances
 - Facial palsy
 - Trigeminal neuralgia
- Osteomyelitis
- Sinusitis
- Submandibular cellulitis
- Squamous cell carcinoma
- Toxic epidermolysis

At a two-day European Commission-sponsored workshop in Amsterdam, August 1990, a working party was set up to draft a proposal for a revised classification and standardization of the criteria for the clinical diagnosis of oral lesions associated with HIV infection.

Revised March, 1992 by J.J. Pindborg

It has been shown that a patient's medical history and social history, however carefully and thoroughly prepared, cannot always reveal the true status of a patient's infectious state.⁵ The "universal precautions" method of infection control assumes that all patients are potentially infectious for HIV, HBV, and other bloodborne pathogens.⁶

At the Spellman Clinic, barrier techniques provide protection for the clinicians and patients. Mask, protective eyewear, gloves, and laboratory gowns are used. All environmental surfaces are disinfected, all instruments are autoclaved including handpieces, and disposable items are used wherever possible. The autoclave is monitored weekly, and laboratory materials are appropriately handled and disinfected. All personnel follow the recommended "universal precautions" guidelines of the American Dental Association (ADA)⁷ and the Centers for Disease Control (CDC).⁸

Extension of Dental Services in Progress

St. Clare's Hospital has three major plans for new components of the Spellman Center Dental Clinic. The three components are: outreach and satellite programs, training and education programs, and research programs.

The outreach programs will provide dental screening facilities in the community at various locations for easy patient access. Basic dental screenings will be offered at residences for persons with HIV infection and at community based support organization facilities.

Training and education programs are designed to provide information to dental care workers on transmission, etiology and epidemiology of HIV, oral manifestations of HIV, and infection control protocols. The Spellman Center Dental Clinic offers a 3-hour seminar entitled "AIDS & Dentistry; A Concept of Care." The effects of a 3-hour educational seminar on changing dental care workers' attitudes and knowledge regarding HIV has been reported.⁹ The seminar was effective in educating dental care workers about the oral manifestations of HIV and changing attitudes about professional obligation.

Another component of the training and education programs is a 20-minute educa-

tional video entitled "Developing Infection Control Protocols for the Dental Practice." The video is available nationally to the dental community.¹⁰ Funding for the training and education programs has been made possible through grants from the Altman Foundation and the American Cancer Society.

The third component is research. Although the primary goal of The Spellman Center is patient care, the volume of patients visiting the Center provides a unique opportunity to document and photograph oral manifestations of HIV infection. Follow-up evaluations of oral problems associated with experimental drug treatment regimens can also be studied. It is anticipated that additional funding for the research programs will be sought from governmental agencies, dental organizations, and pharmaceutical companies.

Research related to periodontal infections has been reported. The microbiologic culturing of subgingival plaque samples from patients with HIV-periodontitis has shown that the major components of the flora are similar to adult periodontitis in seronegative individuals. However, certain organisms may prove to be opportunistic in the light of the lowered immune response of the patient, thus producing the rapid progressive destruction that characterizes many of the periodontal tissues of an HIV-infected patient.¹¹

Summary

The Spellman Center Dental Clinic is similar to other hospital-based dental clinics and private dental offices. The same services that are provided at the dental clinic can be accomplished in private dental offices when dental professionals follow the recommended infection control guidelines as set up by the ADA⁷ and the CDC.⁸ National surveillance data and the results of prospective studies have shown that dental personnel are at low risk for acquiring HIV infection through occupational exposure when the recommended universal guidelines are followed.¹²

The dental clinic at The Spellman Center can serve as a model for dental offices in the private practice sector. It is possible to treat patients with HIV infection in a routine setting using recommended infection control procedures. These procedures should be used in all dental offices at all times with all patients. There is no scientific or medical reason why patients with HIV infection should be denied treatment in the private practice setting.

Patients with HIV infection are susceptible to oral infections and require treatment for these infections. Careful monitoring of periodontal conditions is essential since the periodontal status can deteriorate rapidly and be very painful.

Educational programs designed for improving the knowledge, attitudes, and behavior of dental health professionals can prepare them for the increasing numbers of HIV-infected patients seeking dental care. Continually updated knowledge about infection control will lead to a

renewed confidence so that dental health professionals will feel competent to treat all patients who seek dental care.

Acknowledgment

The authors wish to acknowledge the assistance of Mario Andriolo, Jr., DDS, and Tadd Lazarus, MD, for their review of the original manuscript, and Tom McGivern, RDH, for his review of the revised article.

Dr. Mario Andriolo, Jr. was one of the five dentists who received the special AIDS Service Award presented in Washington, D.C., October 18, 1989 by the United States Secretary of Health and Human Services. As an active member of the New York City AIDS Task Force, Dr. Andriolo was cited as a "forceful proponent for the expansion of dental services for the HIV-infected and the inclusion of those services in primary care." (ADA NEWS, November 6, 1989.) ■

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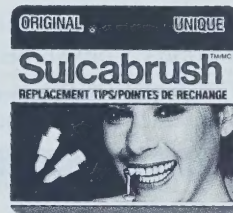
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Final Abstract Results of Columbia University Study

Reprinted from the proceedings of the American Academy of Dental Research
AADR Annual Meeting and Exhibition, March 11-15, 1992, Boston, Massachusetts

COMPARATIVE STUDY OF SULCABRUSH® VS. FLOSS ON PI AND GI. DR. A. ZARAKIAN, DR. L. M. STEINBERG, DR. F. ODUSOLA and DR. I.D. MANDEL (Columbia University, School of Dental and Oral Surgery, New York, New York, USA).

This study sought to determine the usefulness of a new interdental brush in reducing dental plaque accumulation and gingival inflammation. Thirty adult subjects were followed for three consecutive 30 day periods. Examinations were conducted at baseline 30, 60 and 90 days and gingival and plaque indices were scored. In the first thirty day period 15 subjects used the Sulcabrush® once daily and a soft bristle toothbrush as their routine while the other 15 subjects used unwaxed dental floss once daily accompanied by routine soft bristle toothbrushing. At the end of 30 days, all subjects were examined and were asked to refrain from sulcabrushing and return to their "everyday oral hygiene routine" for the next thirty days. On day 60, subjects crossed over—those who had sulcabrushed now flossed once daily while those who flossed now sulcabrushed once daily for the final 30 day period. Day 90, all subjects were examined. When the use of Sulcabrush® is compared to floss, it was found that both led to statistically significant reductions in plaque index, although one is not more effective than the other. Both Sulcabrush® and floss led to statistically significant reductions in gingival index.

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Recent Recommendations for Hepatitis B Vaccination

by J. Hardie, BDS, MSc, FRCDC, Head of Department of Dentistry, Vancouver General Hospital

Introduction

Vaccination is an effective method of preventing disease transmission. Since the early 1980s, vaccines against hepatitis B have been available. Unfortunately, their presence has not been accompanied by a noticeable decrease in the incidence of hepatitis B. This article will outline why this has occurred, what new preventative measures are being suggested, and how these affect dental hygienists.

Hepatitis B

Precise accounting is not possible, but authoritative estimates indicate that among the world's 5 billion people, there are 2 billion sufferers of hepatitis B.¹ It is among the top ten most prevalent diseases of mankind. One of the reasons for this is that, at any time, there are over 300 million chronic carriers of the disease.² The carriers having the potential to infect others, act as a human reservoir of the disease. In North America, during the past 15 years, there has been a doubling of the incidence of, and deaths from, hepatitis B.² For example, although only 3 cases of hepatitis B were reported in Canada in 1969, the number had increased to 3,005 by 1987.³ While alarming, the North American experience must not be examined in isolation. The U.S.A. and Canada (excluding the northern regions) are among the world's lowest areas for hepatitis B. Carrier rates in Canada vary from about 0.5 to 2 per cent, compared to rates of 7 to 20 per cent in East Asia and South Africa — geographic areas where the infection is rampant.³ That is why, even though the incidence has been increasing, hepatitis B remains relatively rare in Canada, and is not considered a major public health problem.² Nevertheless, effective methods of preventing its transmission should be pursued. This requires a knowledge of the individuals most likely to acquire the disease, combined with current information on the effectiveness of the vaccines.

High-Risk Groups

Epidemiologic studies have identified that in the U.S.A. and Canada, hepatitis B is a disease of adolescents and young adults with incident rates peaking at between 25-29 years of age.^{2,4} Definite high-risk activities are associated with acquisition of the infection. They include:

- sexual contact (among homosexual men, and among persons with multiple heterosexual partners)
- I.V. drug abuse
- occupational exposure (dental staff)

- household or sexual contact with someone who has an acute infection or is a chronic carrier
- receipt of clotting factor concentrates
- hemodialysis
- children born to infected mothers.

During the period 1982 - 1988, the number of hepatitis B cases among injection drug users rose from 15 per cent to 27 per cent.² There was also an increase in the number of cases among heterosexuals having multiple sexual partners. (According to the Centres for Disease Control, multiple sexual partners are one every six months.⁴ Concurrent with these increases, there has been a dramatic decrease in the rate of hepatitis B among health (dental) care workers, due to participation in vaccination programs.² The rate has dropped among homosexual men, probably related to changes in behaviour rather than to immunization.²

At birth or in the immediate perinatal period, children born of hepatitis B infected mothers have a 10 to 85 per cent risk of becoming infected.⁴ Among the infected children, approximately 90 per cent will have chronic infection, with 25 per cent of them dying prematurely of chronic liver disease in their early adult years.⁴ Even if such children escape infection at birth, they remain at high risk of acquiring the infection during their childhood, via person-to-person transmission from their infected mothers.⁴

Effective prevention of the disease, among these high-risk groups, is possible using appropriately designed vaccination programs.

Hepatitis B Vaccine

There are two vaccines of choice, RECOMBIVAX-HB and ENGERIX-B. Both are man-made using genetic engineering techniques. Recent studies⁴ of the vaccines have demonstrated that:

- After 3 intramuscular doses a protective antibody response is induced in 90 per cent of adults and 95 per cent of children.
- Successful vaccinees are virtually 100 per cent protected against clinical hepatitis B infection.
- The protection lasts for, at least, 9 years. Therefore, adults and children who remain healthy, with no alteration in their immunologic status, do NOT require a booster.
- Individuals who fail to develop protective antibodies, usually do so after receiving up to a further 4 additional doses.
- The level of protective antibody, known as hepatitis B surface antibody, is 10 milli-international units per ml of blood.

TABLE 1. Recommendations for hepatitis B prophylaxis following percutaneous exposure

Exposed person	Treatment when source is found to be		Unknown or not tested
	HBsAg positive	HBsAg negative	
Unvaccinated	Administer HBIG $\times$ 1* and initiate hepatitis B vaccine	Initiate hepatitis B vaccine	Initiate hepatitis B vaccine
Previously vaccinated			
Known responder	Test exposed person for anti-HBs 1. If adequate, no treatment 2. If inadequate, hepatitis B vaccine booster dose	No treatment	No treatment
Known non-responder	HBIG $\times$ 2 or HBIG $\times$ 1, plus 1 dose of hepatitis B vaccine	No treatment	If known high-risk source, may treat as if source were HBsAg positive
Response unknown	Test exposed person for anti-HBs 1. If inadequate HBIG $\times$ 1, plus hepatitis B vaccine booster dose 2. If adequate, no treatment	No treatment	Test exposed person for anti-HBs 1. If inadequate, hepatitis B vaccine booster dose 2. If adequate, no treatment

*Hepatitis B immune globulin (HBIG) dose 0.06 mL/kg intramuscularly.

§Adequate anti-HBs is $\geq$ 10 milli-international units.

- There are no serious side effects. There may be minor, transient discomfort at the injection site, or a mild increase in temperature.

Recommendations

Although vaccination is the most effective method of preventing hepatitis B transmission, it does not appear to have been successful in decreasing the disease in North America. There are two reasons for this. Firstly, the vaccine has been promoted primarily to and used by health (dental) care workers. However, as a group, they account for less than 10 per cent of hepatitis B sufferers in the U.S. and Canada. Secondly, no attempt has been made to vaccinate the other groups before they engage in high risk activities. This shortcoming has been recognized in the development of new recommendations.⁴ These are described according to the specific target groups.

1. INFANTS and CHILDREN

- hepatitis B vaccination should be a part of the routine immunization schedule for all infants.
- Until this is enacted, all pregnant women should have their hepatitis B surface antigen (i.e. the causative virus) levels determined early in pregnancy (and late in pregnancy if they belong to the high risk groups). Infants born to hepatitis B surface antigen positive mothers, should receive the hepatitis B vaccine.
- children should be vaccinated if their parents either have acute hepatitis B or are chronic carriers of the disease.

2. ADOLESCENTS

Obviously, the adolescents of today will not benefit from universal childhood hepatitis B vaccination programs. However, as previously indicated, this group is vulnerable to hepatitis B especially in communities where infection, drug use, pregnancy among teenagers, and/or sexually transmitted diseases are common.

- Adolescents should be vaccinated in school clinics, community health centres or similar institutions.

3. DENTAL HYGIENISTS

Persons who have infrequent contact with blood or blood contaminated body fluids have a low risk of occupationally acquiring hepatitis B. Using this concept, two designations for dental hygienists are described.

- **Non-clinical** (teachers, administrators)

For such personnel, routine pre-exposure vaccination is not essential. It is more effective to consider post-exposure prophylaxis if — in the rare event — an accidental exposure should occur. (Table I)

- **Clinical**

Encouraged to be vaccinated on a voluntary basis, preferably while in training.

Post-vaccination determination of hepatitis B surface antibody levels 1 to 6 months after the vaccine series. (This provides the security of having been successfully vaccinated).

Booster doses not necessary.

Continued on page 89

Division of Dental Studies, College of New Caledonia, Prince George, B.C.

Spring 1992 will see the graduation of our fourth dental hygiene class, and our twenty-sixth dental assisting class! Our graduates have been well received throughout the dental community — most have elected to remain in northern British Columbia.

Wherever possible, dental assisting and dental hygiene students work together in lab sessions and in clinic. This has proved to be valuable for both groups of students as they have the opportunity to learn about their different roles within the dental family. The instructors also cross programs, thereby facilitating an integrated approach.

Dental Hygiene is preparing for an accreditation site visit in April, which will then put the two programs on track for a joint visit in 1997.

A Sigma Phi Alpha chapter was established this year. This provides a mechanism to recognize outstanding students and faculty.

John Abbott College, Ste Anne de Bellevue, Quebec

It's hard to believe that almost another year has gone by. The 1991-92 academic year certainly has been busy, as well as a very productive one. After many months hard labour, two of our faculty members, Gisele Johnson and Francine Trudeau, finally completed an "Asepsis Protocol" intended for use by dental hygienists across Quebec. The document should soon be ready for distribution. While compiling information, both instructors gave several local conferences, province-wide, on the topic. This gave them an opportunity to meet hygienists on their own territory, and to become acquainted with their needs.

Once again this year, there will be a student/faculty exchange with the dental hygiene department of Vancouver Community College (VCC). At this time, three students and one instructor from John Abbott College (JAC) plan to spend the first week of April in Vancouver. Shortly after their return, six students and one instructor from VCC intend to visit Montreal. Even though students are expected to attend classes and participate in clinical fieldwork, several extracurricular activities are planned.

On the topic of "clinic" a lot is happening here. The faculty is presently in the process of restructuring the clinical evaluation. Much time is also being spent in updating and reorganizing the clinic manual. With a pending clinic move from downtown Montreal to the JAC campus, it is imperative that everything be up-to-date and in order as well. Should this move go through as planned, a great deal of time and energy will need to be devoted to relocation.

Last November, at the request of the college authorities, the department conducted a survey at the college to find out if there would be a viable clientele on the premises to operate a dental hygiene clinic. Out of 1,900 respondents, 65 per cent said they would gladly take advantage of the services if they were offered locally. This seemed to satisfy the administration. The final decision now rests in the hands of government officials. Meanwhile, for us, it's business as usual!

Confederation College, Thunder Bay, Ontario

There are thirty dental assistant and fourteen dental hygiene students enrolled at Confederation College for the 1991-92 academic year.

This year, Confederation College was instated as the "Chi Sigma" chapter of Sigma Phi Alpha Dental Hygiene Honor Society. We are anxious to invite out newly appointed members to join the Charter members in a once a month "Journal Club" intended to review current dental hygiene literature.

Sue Raynak and Salme Lavigne are actively involved on the CDHA Board of Directors, and look forward to the Victoria Conference. Sue Raynak attended the CDA/CFDE Educators Conference on problem-based learning in October, and has brought back some exciting new ideas. Gail Sargent and Salme Lavigne were honoured at the 20th anniversary dinner of the Thunder Bay Dental Hygienists Society as two of the four founding members, and were presented with recognition plaques.

Salme Lavigne will be presenting her research at the AADR in Boston (March 1992) entitled "The Effects of Subgingival Chlorhexidine Irrigation on Peri-implant Tissues". Our main academic projects for this year include a self-paced Pharmacology Course completed by students through independent study, and the incorporation of a more problem-based clinical curriculum.

University of Alberta, Edmonton, Alberta

The Faculty of Dentistry is celebrating its 75th anniversary and the Dental Hygiene program its 30th year. A year of celebrations have been planned focusing around a dynamic agenda of monthly continuing education and special events.

1992 marks a growth year for the Division of Dental Hygiene. We received approval from the Alberta Department of Advanced Education and the University of Alberta to increase the dental hygiene quota from forty to fifty, commencing with the 1991-92 academic year. The dental hygiene quota will further increase to sixty-five beginning in the following academic year.

Professor Janice Pimlott was appointed Chair of the program in 1991, and Professor Sharon Compton joined the full-time faculty last summer. Two full-time faculty positions are being recruited, as well as several part-time positions.

St. Clair College of Applied Arts and Technology, Windsor, Ontario

As usual there is never a dull moment in education. Because of tight budget constraints, the college is on a pathway of discovering new approaches to delivering courses. The buzz phrase is "Paradigm Shift", and everyone is working very hard at producing alternate delivery systems for more student-directed learning.

Regretfully we will be saying "Goodbye" and best wishes to Bertha Welzel who will be leaving the faculty after a year's full-time affiliation with the college. Bertha graduated from our Dental Assistant program in 1972, and from Dental Hygiene in 1982 — her years of dedication to education are greatly appreciated.

St. Clair retains its full accreditation status, and we are proud of our 1992 graduates who were all successful on their Royal College of Dental Surgeons licensing examinations.

Saskatchewan Institute of Applied Science and Technology, Regina, Saskatchewan

Our class of thirty students (thirteen Saskatchewan dental therapists, and seventeen certified dental assistants), should be prepared to re-enter the work-force in May 1992.

Along with curriculum changes dealing with irrigation techniques, dental implants and nutrition, the program has developed a liaison with a local senior citizens' residence. Each Friday morning and afternoon, an instructor and five students spend their clinic session seeing residents. Services are provided by the students in the on-site one chair dental clinic and/or the residents' rooms. This

has proven to be an extremely rewarding experience for everyone involved.

This year, all campus centres received invitations to our students' table clinics. The students "Travelling Table Clinics Show" had been on the road to the School of Dentistry in Saskatoon and to two Adult Basic Education Centres of our campus. Feedback was very positive, and the students were more than happy to share their "creations" with others.

School of Dental Hygiene, University of Manitoba, Winnipeg, Manitoba

Ellen Brownstone has recently been re-appointed to a five-year term as Director of the School of Dental Hygiene, effective August 1, 1992, when she returns from a two-year study leave. She has been working towards her doctorate.

Annetta Streater, a graduate of the masters program in Dental Auxiliary Teacher Education at the University of North Carolina, Chapel Hill, assumed responsibilities as first-year co-ordinator in the fall of 1991.

The School of Dental Hygiene will be conducting a refresher/re-entry program June 15-19, 1992.

Christine S. Pellegrino of the University of Texas Health Science Centre at San Antonio was a visiting professor at the School for two weeks in February. In addition to some teaching, she conducted a one-day continuing education program on instrumentation and two faculty development workshops.

Marnie Forgay has been granted a year's research/study leave, commencing August 1, 1992. She will be working with a joint project of the University of Saskatchewan and the Government of Mozambique in Biera, Mozambique. The project is funded by the Canadian International Development Agency.

George Brown College, Toronto, Ontario

During the 1991-92 academic year at George Brown College, forty-nine students were enrolled in the Dental Hygiene Program.

The students undertook to present a program with the theme of "Wellness" to the staff and students at the College.

Many new staff appointments took place, including: Dean of Health Sciences, Lynne Mulder; Clinical Director of Dental Clinics, Dr. D'Arcy G. Atkins; Clinical Dental Hygiene Co-ordinator, Harriet McCabe; and Didactic Dental Hygiene Co-ordinator, Evie Jesin.

George Brown College will continue to hold a two-week dental hygiene refresher course in July 1992, and a one-week clinical course to assist candidates prior to taking the licensing examination, all as part of its commitment to dental hygiene continuing education.

Vancouver Community College, B.C.

The interesting aspect about education is that it presents new challenges every year. During the last academic year our faculty and four of the second-year students were involved in a pilot project as clinical instructors in the second-year periodontics course at the University of British Columbia Dental Faculty. As a result of the positive feedback, this project has been expanded to involve twelve students in both clinical and didactic instruction. A similar project has also been developed with the dental assisting students at our college. We feel that these experiences will provide a valuable opportunity to develop the educational skills of our students and promote increased awareness of the role of various dental care providers.

Another major project has been the incorporation of "Performance Logic" principles into our clinical practice. Faculty members from the Universities of British Columbia and Maryland have assisted us in the endeavour to promote balanced posture. We hope that these skills will help our students avoid the chronic back and shoulder pain which is plaguing our profession.

A fascinating new avenue we are pursuing, is the integration of music therapy into our educational setting. We have established contact with a music therapist who will be assessing our clinical environment and developing a plan for the integration of music to promote student learning and patient comfort. It promises to be a learning experience for all of us.

Collège Cambrian College, Sudbury, Ontario

Cambrian offers the Dental Assistant and Dental Hygiene Programs. Aside from La Cité Collégiale in Ottawa, Cambrian is the only other college in Ontario to offer these programs in French as well (soins dentaires and hygiène dentaire).

In 1991, both programs completed the Canadian Dental Associations' accreditation process. The Dental Hygiene Program maintained its accreditation status, and the hygiène dentaire program was granted full accreditation.

On behalf of Collège Cambrian College, we would like to publicly thank Beverley Kaissier, President of the Ontario Dental Hygienists' Association; Mary Mayer, President of Sudbury and District Dental Hygienists' Component Society; Linda Strevens, Executive Assistant with the Royal College of Dental Surgeons; and Dale Scanlon, CDHA's Conference Co-ordinator, for their efforts on behalf of the dental hygiene profession. Their interaction with the students promotes our professional association in a positive way.

The students of both programs are also grateful for the continued support and encouragement shown them by

the Sudbury and District Dental Hygienists' Component Society. This local component offers free to students all meetings and encourages them to actively participate to experience firsthand what it means to be a member.

Here at Cambrian, the Career Planning and Placement office provides statistics on the job placement of graduates from year to year. Six months after graduation the students are contacted for the collection of this data. In 1990, 92 per cent of dental hygiene and 100 per cent of hygiène dentaire graduates were employed. We expect the 1991 statistics to be as positive.

With help from Sudbury and District Dental Society, who made available their funds, and a significant allocation of funds made by the Ministry of Northern Development and Mines, a recent expansion of the clinical facilities from 12 to 20 operatories was made possible. Our clinic is a state-of-the-art facility providing access for disable clients as well as allowing for an increase in enrolment. These efforts ensure the viability of the programs in this northern community.

As we near the end of this academic year, our thoughts turn to the Royal College of Dental Surgeons exams for licensure. The licensing exams are scheduled for May 19-22, 1992. We are looking forward to welcoming these graduates as future professionals.

Dalhousie University, Halifax, Nova Scotia

The School of Dental Hygiene at Dalhousie University has a current enrolment of seventy-nine students: forty-two in the first-year program, and thirty-seven in second year. Our students range in age from 19-45 years, and include four male students. Indeed, the student profile has changed remarkably — and now includes many mature students, some embarking on a second or third career.

The faculty consists of the Director, Joanne Clovis, and four full-time faculty. We also have 23 part-time faculty members including four dentists.

The clinical program at Dalhousie is competency based. The students are paired with a fourth-year dental student in a general dentistry setting to create a greater similarity to a collaborative clinical practice setting.

All students receive pediatric experience in a school program where they are paired with senior dental students in a clinical setting. At Dalhousie, the students have an opportunity to work in an oral pathology clinic and a periodontic post-graduate program.

Ten students annually participate in an extramural practice experience in Newfoundland at the Grenfell Mission in St. Anthony. A quick look at an atlas will let you see where that is located. Pairs of senior students spend a two-week rotation treating patients in the dental clinic at the hospital and learn a little about life "on the rock".

Students are also involved in a satellite clinic setting at Mount Saint Vincent Mother House in Halifax,

where they provide clinical services and spend a great deal of time educating the residents and the care givers.

The senior students have just completed their Table Clinic presentations. For the past several years, the winning students have attended the Student American Dental Hygienists Association Northeast Region Annual Meeting and presented their table clinics with the SADHA members. This has provided an opportunity to exchange ideas and meet fellow future professionals. Our students have also managed to come away with first place honours on one occasion, and second place on two occasions.

The academic year is winding down with convocation at the end of May.

Camosun College, Victoria, B.C.

Camosun College has a Dental Hygiene Program which admits twenty-four students each year. The second graduating class will complete the program in June 1992. Applicants must have a minimum of one year of university to gain access. Graduates may apply to complete the B.C. Degree Completion Program. (For more details on this program, turn to page 57).

The curriculum fosters development, problem-solving, critical thinking and access to information skills over 20 months (2 years). In addition, each senior student has a designated mentor in the Victoria and District Dental Hygiene Society to enhance professional socialization and support integration of academic work and dental hygiene practice.

Camosun students attend designated continuing education programs as guests of the Victoria and District Dental Society, and are welcomed to the provincial dental meeting also as guests. Liaison with the professional community is strong.

The program is housed in a beautiful building which was designed especially for dental assisting and dental hygiene education. In the building, aptly designated the Dental Health Education Centre, the surrounding community can access preventive dental care and education for nominal fees. Students provide individualized care and education for interested clients.

Camosun College is looking forward to an accreditation site visit tentatively scheduled for March 1993. Prior to receiving accredited status, graduates will access registration through the College of Dental Surgeons of British Columbia licensing examination.

Students and faculty are looking forward to receiving visitors from across Canada during the CDHA Professional Conference in June.

Niagara College, Ontario

Niagara College is once again offering a Dental Hygiene Program starting this September. The popular program was suspended in 1988 due to budget restraints.

The maximum enrolment will be 27 students and will expand to 44 students as funds allow. ■

The University of British Columbia

Baccalaureate Degree Completion Programme In Dental Hygiene

The Faculty of Dentistry offers a Baccalaureate Degree Completion Programme in Dental Hygiene leading to a B.D.Sc. degree. The programme may be undertaken either on a full time (2 years) or part time basis (up to five years to complete).

Closing date for receipt of fully documented applications is December 15 for admission for the following September.

Further information and application forms may be obtained from:



**The Secretary, Division of Periodontics
Department of Clinical Dental Sciences
Faculty of Dentistry
The University of British Columbia
2199 Wesbrook Mall
Vancouver, B.C. V6T 1Z3
Telephone: (604) 822-5895
Fax: (604) 822-3562**



Who's Responsible for the Quality of Care provided by Dental Hygienists?

This is an issue that many provincial organizations are dealing with today. While regulatory bodies struggle to address this issue, dental hygienists as individuals must also consider ways to ensure quality care to the public they serve.

As professionals, each of us is responsible for examining the ways we practise; comparing our practice to the standards of practice in Canada, and participating in activities that help us upgrade areas of weakness, as well as keep abreast of the latest technological advances. So many changes are occurring on a daily basis that conscious efforts are required to meet these challenges.

CDHA has developed a workshop entitled **"Taking Steps to Ensure Quality Dental Hygiene Care"**, that provides a wonderful opportunity for dental hygienists to share common concerns and brain-storm on ways to make changes in daily practice. These sessions are designed for small groups to meet in a relaxed atmosphere. Many excellent ideas are generated and implemented as a result of these experiences. A feeling of isolation can be counteracted by meeting with other colleagues and developing a support group that understands your personal goals.

Consider these comments from workshop participants across Canada:

"Encouraging and motivating!"

"I thoroughly enjoyed it and am remotivated toward working on goals."

"Group interaction with fellow colleagues — great."

"The most valuable aspect of this learning experience was becoming more aware of the way I practise dental hygiene and refreshing old habits."

"I enjoyed learning to break up problem areas into bite-size pieces, and know how to tackle problems with clear, concise strategies."

"Most valuable: active participation and brain storming with other dental hygienists — generated a lot of good ideas."

"It got me thinking."

"I valued focusing priorities and setting up objectives to make priorities accessible."

"For me, the most valuable aspect was the self-assessment beforehand. It identified an aspect I never really thought of before — we get so busy doing what we **need** to do!"

"Made me clear on what my target areas are."

"It applies to clinical improvement rather than many recent courses on the future of dental hygiene."

"The specific dental hygiene focus helped to develop goals which I may not have done otherwise — I am now motivated to begin."

"It was a great course. I got a lot out of it and feel I've got something very tangible and workable to bring to the faculty retreat."

"Most valuable — identification of my own personal goals at the workplace."

"It gave me a good feeling of what I am doing — I felt great about what we covered."

"Most valuable: problem solving mechanism and feedback from peers."

"I enjoyed learning how to plan a strategy to improve and/or achieve my goals."

As you can see, the response to the workshop has been very positive. If you would like to participate, contact the CDHA Continuing Education Co-ordinator for information. If you have a group of people interested, workshop packages are available from CDHA Central Office. Call 1-800-267-5235 for details.

Let's all take responsible for the quality of care provided by dental hygienists, and start by examining our own practice in a quality assurance workshop!

Nancy Keselyak, CDHA Continuing Education Co-ordinator — (604) 942-5785

An Evaluation of Dental Hygiene Practice Standards Workshops

by

M.G.E. Forgay, W.A. Halowski, S.J. Feller, M.E. Wener

I. INTRODUCTION

The Federal government Working Group on the Practice of Dental Hygiene published its Report in 1988. Part Two of the Report was the document "Clinical Practice Standards for Dental Hygienists in Canada". A copy of the Practice Standards was sent to every dental hygienist registered in Canada. In 1989 the Canadian Dental Hygienists' Association undertook a project to ensure the publicizing and application of the Practice Standards.

The project for the Practice Standards Workshops outlined three phases: development, implementation and evaluation. The development phase involved preparation of workshop materials and a pilot workshop in Winnipeg (Feb. 1990) to test the materials. The materials were revised subsequent to the pilot workshop. During the implementation phase six workshops were conducted in April and May 1990 by three different facilitators in different cities across Canada. A total of 93 dental hygienists participated in the workshops offered during the implementation phase. A seventh workshop had been proposed but was postponed and will not be included in the study.

During the workshop, each participant completed an Action Plan to help participants sequentially and specifically develop a plan to improve their ability to provide quality dental hygiene care. Specifically, each participant identified a top priority need, goals, and objectives related to some aspect of their dental hygiene practice which they wanted to change to better conform to the Practice Standards. Participants also outlined learning activities, a time schedule, and a monitoring process as well as possible barriers to their project and possible ways to reduce their barriers.

The evaluation phase had two objectives:

1. to measure the extent to which the workshops assisted the adoption of the Clinical Practice Standards
2. to provide suggestions for improvements for future workshops.

The evaluation procedures focused on the extent to which the Action Plans were implemented by individual participants in their practice situations. The assessment attempted to measure to what extent the identified goals and objectives were implemented and maintained or modified. In addition, demographic information was gathered for each participant.

II. METHOD

Data were collected through a semi-structured interview. Each participant, whose action plan was received at the conclusion of a workshop was telephoned approximately 3 months later by a single interviewer. Participants were requested to respond to demographic questions and questions regarding their specific action plan as developed during the workshop. The initial interview was developed and tested on three participants and subsequently modified to include more information on the major goal of the Action Plans. Since the participants did not have a copy of their Action Plans in front of them, the interviewer read the Action Plans to the participants. Those participants who could not be contacted after six months and four attempts by telephone were not included in the evaluation data.

A frequency count was done for all the demographic data and the data regarding the action plans. To get a general idea of the information about the action plans gathered during the interviews, the responses to the questions which were open (e.g.: "Which learning activities were most successful?" "What barriers got in the way of completing your Action Plan?" etc.) were tabulated manually. Those which appeared most frequently then became the response categories for these questions.

Cross-tabulations were done with a number of the variables. These cross-tabulations included: type of practice setting (i.e. solo or group and general or speciality practice) and the extent to which the Action Plan was completed; the learning activities which were most and least successful and the extent to which the Action Plan was completed; type of practice setting (i.e. solo or group) and the barriers; the barriers and the extent to which the action plan was completed; and the extent to which the Action Plan was completed and the goal(s) identified on the Action Plan.

III. RESULTS

A. POPULATION DATA	Frequency	Per cent
Total number of action plans received:	93	-
Number of participants contacted:	78	84
Number of participants not contacted:	15	16
Number of action plans not available:	1	-

B. DEMOGRAPHIC DATA

Year of graduation:

1955-1965	4%	1976-1980	14%
1966-1970	8%	1981-1985	21%
1971-1975	22%	1986-1990	31%

School of Graduation

University of British Columbia	3%
University of Alberta	4%
Wascana Institute (SIAST)	13%
University of Manitoba	17%
Algonquin College	3%
Confederation College	13%
Niagara College	4%
St. Clair College	1%
George Brown College	1%
Francois-Xavier Garneau	3%
John Abbott College	1%
Maisonneuve	1%
Dalhousie University	28%
University of Toronto	4%
Other	4%

Number of years of dental hygiene practice:

1- 5	35%
6-10	23%
11-15	15%
16-20	19%
21-25	5%
25-30	2%
31-35	1%

Number of years in current practice situation

0- 5	70%
6-10	14%
11-15	10%
16-20	6%

Type of Practice Setting¹

general practice	80%
specialty practice	5%
other	9%
general & specialty	7%
full-time practice	66%
part-time practice	33%
solo	57%
group	30%

Residence²

rural	20%
urban	80%

C. ACTION PLAN DATA

The following data relate to the Action Plans completed by the participants. The percent for each response is reported.

Did your employer support your attendance at the Workshop?³

Yes	60%
No	40%

In relation to your goal or top priority need, would you say that you have:

completed as planned	9%
mostly completed	39%
somewhat completed	44%
mostly incomplete	4%
haven't started	2%
no response	2%

Did you change your original objectives?

yes	15%
no	75%
no response	10%

Which learning activity and/or resource was most successful?⁴

Participants' responses were grouped into the following categories:

• developing/modifying patient records	10%
• working and/or communicating with office co-workers	15%
• working and/or communicating with employing dentist	10%
• working and/or communicating with other dental hygienist(s)	10%
• attending a course and/or study club	14%
• doing further research and/or reading	14%
• other	25%

Which learning activity and/or resource was least successful?⁵

Participants' responses were grouped into the following categories:

• working and/or communicating with employing dentist	11%
• working and/or communicating with co-workers	6%
• attending a course and/or study club	12%
• doing further research and/or reading	36%
• other	34%

Was your scheduled time to complete your action plan sufficient or insufficient?

sufficient	35%
insufficient	26%
no response	39%

How effective was your monitoring system?

effective	53%
not effective	29%
no response	18%

What barriers got in the way of completing your Action Plan?⁶

Participants responses were grouped into the following categories:

• lack of support from employing dentist	18%
• lack of time during the day	46%
• lack of time during patient appointments	6%
• lack of support from co-workers	8%
• participants not following through on Action Plan	6%
• other	16%

What impact has the workshop had?⁷

Participants' responses were grouped into the following categories:

- motivated me to make some changes in my practice setting 19%
- helped me think about or evaluate my clinical practice 35%
- provided the opportunity to share information with other dental hygienists 17%
- provided the opportunity to learn and apply the problem-solving approach 6%
- increased my self-confidence as a dental hygienist 4%
- other 18%

Were there any unexpected outcomes from the workshop?

The only response which occurred more than one time related to feeling better about or more confident about the dental hygiene care provided. This response was included in the previous question.

What would have helped the workshop to be more successful?

A second objective of the evaluation phase was to provide indications for improvements for the workshop. The majority of participants (74%) had only positive comments to make about the workshops. Participants' suggestions for improving the workshops were grouped into the following categories:

- follow-up meeting or workshop with the same participants 6%
- more participants in the workshop 6%
- course length should be increased 4%
- increase time for discussions between groups and individuals 3%
- other 7%

Goals for Change

The goals and objectives identified on the participants' action plans as areas to change or improve in their practice were classified according to the criteria in the Clinical Practice Standards. A maximum of three criteria from the Clinical Practice Standards were identified for each participant. The following are those criteria with a frequency of greater than 10%:

- The employment situation provides permanent patient records required for effectiveness and continuity in dental hygiene care 23%
- The dental hygienist documents the process of dental hygiene care 19%
- The dental hygienist maintains ongoing records in order to assess the oral health status of a patient 39%
- The dental hygienist involves the patient or patient's advocate (e.g. parent) as an active participant in planning dental hygiene care 10%
- The dental hygienist develops a plan for a patient's dental hygiene care consistent with the overall plan of dental care 23%
- The dental hygienist develops a plan for the patient's dental health education 30%
- The dental hygienist participates in providing care in emergency situations 12%
- The dental hygienist incorporates evaluation into the course of treatment 13%
- Outcomes are evaluated in terms of the goals specified in the dental hygiene plan of care 21%

Because of the small number of participants, when the cross-tabulations were done, the sub-groups were too small to reliably say anything about the results. Therefore these data are not reported.

IV. DISCUSSION

The semi-structured nature of the questions produced a wide diversity of responses during the interview process. However, some overall trends emerged which bear discussion: completion of Action Plans, barriers, impact of the workshop, choice of goals and evaluation of the workshop.

Approximately one-half of the participants completed or mostly completed their action plans. When the third category of "somewhat" completed is taken into consideration, 93% of participants are included. This indicates that the majority of participants were able to make some changes in their practice as a result of attending the workshops.

Success or lack of success in completing the Action Plans could not be related to any specific variable. The one barrier identified most frequently as interfering with completion of the action plan was time available during the day to work on the Action Plans. However, this barrier was identified most frequently by those participants who reported that they had mostly or somewhat complet-

ed their Action Plans. Of those participants who reported mostly incomplete or haven't started on their Action Plans, there was no barrier reported more than one time. Barriers do seem to indicate that continuing education courses in time management and negotiating skills may be timely.

The responses to the question concerning the impact of the workshop were very positive. The response indicated most frequently (35% of the participants) was that the workshop helped them to evaluate and/or think about how they practiced dental hygiene. Included in this group were those who reported that the workshop helped clarify a need to increase their competence in specific areas. The workshop helped motivate some of the participants to make a change in the way they practice (19%). The opportunity to talk with other dental hygienists (17%) and to learn the problem solving approach (6%) were also important to some participants. Individual responses which give an impression of the significance of the workshop include the following: "The workshop made me proud to be a part of an organization looking at practice

standards", "motivated my dentist to learn about the practice standards" and "helped me establish a relationship with another hygienist where we could be role models for each other".

Relating the choice of goals identified by participants on their Action Plans to the Clinical Practice Standards provides some indication of where the participants want to make a change in their clinical practice. Each action plan identified 1, 2 or 3 criteria. Under the category of Process, 39% of the participants indicated that they wanted to maintain ongoing records to assess the oral health status of a patient (criterion #9). That is, the participants wanted to gather more baseline information on their patients. This need to do more assessment procedures was sometimes accompanied by a need for the employment situation to provide permanent patient records (criterion #6) and 23% of the participants wanted to develop or change the patient records in their practice setting. Sixty-three percent of the participants want to change how they plan dental hygiene care by either involving the patient as an active participant (criterion #10-10%); developing a plan for a patient's dental hygiene care consistent with the overall plan of dental care (criterion #11-23%); or developing a plan for a patient's dental health education (criterion #12-30%). In the Implementation category, the criterion concerning dental hygienist's participating in emergency care situations (#10) was the only one identified by more than 10% of the participants. Twenty-one percent of the participants also identified a need to change how they evaluate outcomes in terms of the goals specified in the dental hygiene plan of care (criterion #22). These results may be of interest to planners of continuing education courses for dental hygienists.

One problem was that the goals identified on the Action Plans were not always clearly related to specific criteria in the Clinical Practice Standards. The interviewer had to interpret into which specific criteria the goals and/or objectives could be categorized. Some examples of the goals from the Action Plans are: "improving the oral health of my patients"; "provide better dental hygiene care over a long-term basis"; "be able to provide more comprehensive dental hygiene care". One might also wonder

whether these global statements of intent are specific enough to drive action. In future workshops, participants might be assisted in developing more specific, measurable goals and objectives.

The overall evaluation of the workshops was very positive. Seventy-four per cent of the participants indicated only a positive response category and when asked what would have helped to make the workshop more successful fewer than 5 participants responded in each category. Some of the comments made about the workshop included: "I hope there will be more of these workshops in the future", "best course I've taken in 17 years" and "dentists should be involved in a similar workshop".

V. CONCLUSION

The Clinical Practice Standards Workshop has the desired outcome of assisting participants to make changes in their dental hygiene practice. Participants were able to identify an aspect of their practice which they wished to change and outline a plan of action. The majority of participants were successful in implementing some aspect of the Action Plans in their practice setting. The workshop also made participants aware of the Clinical Practice Standards and provided them with an organized approach to integrate the standards into their daily practice.

The positive response to the workshop should encourage the offering of more workshops for dental hygienists who have not yet had the opportunity to attend one and ongoing workshops for those who wish to continue attending similar workshops should be considered. Based upon participants' responses, no major changes to the format or content of the workshops should be made.

¹some participants practice in more than one practice setting

²as defined by participant

³support was interpreted by the participant as either financial or showing an interest in the workshop.

⁴participants could identify only one activity or resource

⁵participants could identify only one activity or resource

⁶participants could identify more than one barrier

⁷participants could identify more than one response

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Dental Anatomy: Its Relevance to Dentistry

Julian B. Woelfel; Fourth edition, Lea & Febiger, 200 Chester Field Parkway, *Malvern, Pennsylvania 19355-9725, USA. Copyright 1990. 325 illustrations, indexed, 438 pages, \$61.70.*

Reviewed by Maureen Penner, RDH, BScD (Dental Hygiene), Instructor, Dental Division, College of New Caledonia, Prince George, B.C.

"This edition of Dental Anatomy is more than a dreary primer for dental and dental hygiene students. Here dental anatomy is tied in with forensic dentistry, dental pathology, oral and facial anatomy, endodontics, periodontics, restorative dentistry, the vascular supply and neurology associated with the mouth, and almost any subject of dental health service, such as the temporomandibular joint and occlusion."

As such, the author of this text has attempted to create a context for the discussion of dental anatomy; to affirm its practicality and, indeed, its relevance. Not only is the student engaged in the learning of details pertaining to dental anatomy, but is also encouraged to related this information to other subject areas, and to the study and practise of various dental specialties. Philosophically, this reflects an androgogical approach to teaching and learning — a welcomed and refreshing approach.

Further, the student is encouraged to actively participate in learning by answering questions located at the end of most chapters. Also enabling review are the charts, found throughout the text which succinctly summarize information presented. "Directions for Drawing and Carving Teeth" — one of 22 chapters, provides another avenue for application. References accompanying each chapter facilitate further enquiry.

The initial chapters, namely: "The appearance of the Oral Cavity" and "Terminology" attempt to provide the necessary orientation to the oral cavity and the dentition. Clear, concise definitions and descriptions are included. Discussion, however, relating to line angles, point angles, occlusal curvatures, and axial positions of teeth, is excluded. This, in turn, undermines the discussion found within subsequent chapters highlighting the individual teeth, and lends to a weak correlation between form and function.

Information pertaining to the individual teeth is presented in a systematic, easily understood manner; each surface is described in turn; brief descriptions encapsulate relevant details. Of particular value are the accompanying photographs of actual specimens, and of casts. These aid in the depiction of the range and variation

which each tooth may exhibit. This aspect would be further strengthened by the inclusion of labelled diagrams within the chapters pertaining to the anterior teeth. This would allow for easier transference and application of the written descriptions, to the photographs. Of lesser value, distracting the reader, is the seemingly anecdotal, conveyance of personal research findings. Such information could have been cited within the list of references found at the end of each chapter.

The latter chapters take on a more global perspective. Aspects of head and neck anatomy such as vasculature, innervation and occlusion are addressed in individual chapters. It is here, also, where the more basic information relating to oral and dental anatomy is incorporated within discussions of various dental specialties. These chapters are not comprehensive, necessitating augmentation with texts specific to these topics. However, sufficient information is provided such that insight is gained and should the reader's interest be piqued, further research is facilitated by way of the references supplied.

Educationally, Woelfel presents a sound text. An attempt is made to engage the student by encouraging active participation and further enquiry. Also applauded are his efforts to bring the topic of dental anatomy to life; to establish a context for its discussion; to, indeed, make it relevant.

If used as a primary text, supplementation, particularly in the area of "form and function", would be required. In the event that another text is used primarily, this text would serve as an excellent resource.

Oral Pathology for the Dental Hygienist

Olga A.C. Ibsen, and Joan Anderson Phelan. 1st edition. W.B. Saunders Company, Philadelphia, PA. Copyright 1992. Illustrated, 490 pages. \$56.95.

Reviewed by Patricia Covington, RDH, BSc. Instructor of Dental Hygiene, College of New Caledonia, Prince George, B.C.

This is a new textbook, in a field of many, on oral pathology. The text has been designed for dental hygiene students and will also serve as a reference text to practising hygienists.

Besides the two primary authors, there are several contributing authors that all have credentials in the field of oral pathology. The text is well organized into seven chapters with objectives, vocabulary list, and review questions for each chapter. At the end of the text is an

extensive glossary for a quick check or review of definitions. There is a 300 colour slide series that may be purchased for \$363.00 Cdn. plus GST to accompany the text for teaching purposes.

Good quality black and white pictures are throughout the text, and it also contains a section of 50 colour plates. References for each chapter are primarily from recent journal articles as well as textbooks.

This oral pathology text has omitted a section on periodontal diseases which is acceptable as that subject is usually well covered in other areas of dental hygiene curriculum. However, they also omitted information on dental caries and only included a brief section on the sequelae of pupal inflammation which is more likely to be covered in the oral pathology course of dental hygiene programs. Also lacking is any information on temporomandibular disorder.

In the preface the authors state that their focus is on diseases and conditions most relevant to dental hygiene practice so the more rare conditions are not covered. Relevant general pathology information is integrated into each of the chapters. For most of the pathologies discussed, treatment and prognosis information is included. As with most recent editions on oral pathology, information on the oral manifestations of AIDS is included.

Certainly, there are more extensive texts on the subject that serve well as references, but this one is at an appropriate level for the scope of dental hygiene practice. After struggling with several different texts to teach oral pathology, this one appears to be very user friendly, and I intend to switch to this text for the upcoming academic year. 🌸

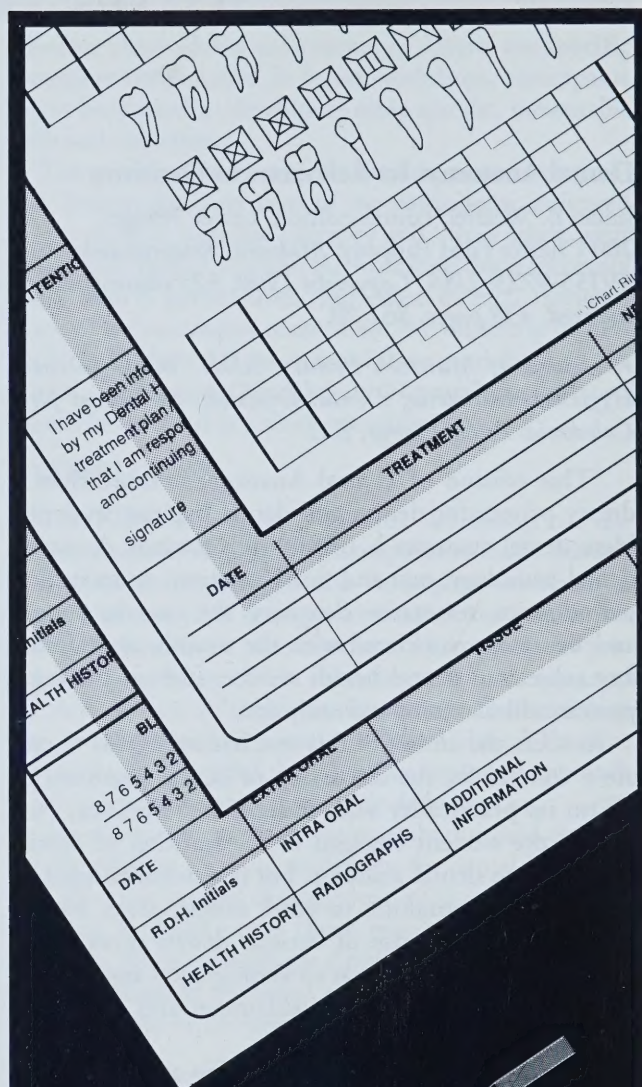


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SELF ASSESSMENT TEST

HUMAN IMMUNODEFICIENCY VIRUS

The number of AIDS cases in Canada continues to grow at a rapid rate. Many people who are infected with HIV may remain symptomless for months or years. While AIDS is not a highly contagious disease in the dental office setting, the concern about possible transmission demands review of infection control procedures.

How Informed are You?

1. If you are treating a known carrier of HIV, you must take *extra* precaution with infection control.

True or False

2. Medical History questionnaires must include the question, "Do you have AIDS?", or "Have you ever tested HIV positive?"

True or False

3. It has been established that 95% of patients with AIDS or AIDS-related conditions may have abnormal physical findings in the head and neck area (including lymphadenopathy). Some symptoms can be easily identified through routine intra-extra oral examinations. Oral findings may include which of the following:

- a) recurrent herpes simplex virus infections
- b) rapid periodontal bone loss
- c) candidiasis

- d) hairy leukoplakia
- e) all of the above

4. AIDS-Related Complex (ARC) for adults applies to patients who have:

- a) the earliest stages of HIV with a mononucleosis-like illness
- b) at least two depressed laboratory signs and at least two clinical signs of the more advanced stages
- c) is the most advanced stage of the HIV infection
- d) Kaposi sarcoma lesions

5. The risk of a health care worker acquiring HIV following direct injection with a contaminated needle is about ? in a 1,000.

6. An HIV infected patient is at a high risk of developing a bacterial infection following scaling and root planing procedures and should, therefore, be premedicated with antibiotics.

True or False

7. Select the most direct benefits of Peridex (0.12% chlorhexidine Gluconate) Rinse for HIV patients, if used twice daily for 1 minute rinses.

- a) aids in blood coagulation
- b) kills both candida and bacteria
- c) provides antiviral activity
- d) works long-term
- e) helps in pain management

References

Cottone, Terezhalmay, & Molinari. *Practical Infection Control in Dentistry*.

Ministry of Health Ont. *AIDS and Health Care Workers*.

Seminar: Winkler, James. "HIV Associated Periodontal Disease".

Self-assessment test prepared by Karen Tulk, DipDH, Durham College of Applied Arts and Technology, Oshawa, Ontario.

Answers

1. (False) All patients are to be treated as if they are carriers of a transmissible disease. You are at a higher risk treating patients who are unaware that they are HIV infected.
2. (False) Patients are under no obligation to answer this question. Symptoms of the disease through a thorough medical questionnaire can provide you with valuable insight to their status.
3. (All of the above) Which underscores the importance of thorough intra and extra oral examinations and subsequent record keeping.

4. (b) Clinical signs can include two or more of the following: lymphadenopathy syndrome, fever, weight loss, unexplained diarrhea, fatigue, night sweats, hairy leukoplakia, and unexplained oral candidiasis.
5. (1 in 1,000) This is compared to the risk of acquiring hepatitis through the same accidental injury, which is 1 in 4.
6. (False) HIV patients do not risk bacterial infections due to their HIV infection unless they have a heart defect. Therefore, antibiotic premedication is not necessary and in

7. (b,c,d) Peridex is a helpful management aid and is known to provide antimicrobial, antifungal, and antiviral activity. Peridex tends to stick to the tissues and, therefore, has slow release qualities. Betadine intrasulcular lavage is thought to be a better management aid for pain and blood coagulation.

— Part six of a series —

"Own Occupation" disability

Income Protection Policies are designed to do one thing, provide against loss of income in respect of loss of time caused by a disability brought on by an accident, or sickness, and not due to a loss of employment. The Loss of Time policy is not a Pension Policy payable to normal retirement age to a person who decides he/she no longer wishes to work following a disability.

Mutual of Omaha's disability policy, similar to other insurance companies, contains a definition of Total Loss of Time and within that definition, a clause commonly referred to as "Own Occupation". The length of the "Own Occupation" period depends upon the actual policy and allows the hygienist to be considered as having total loss of time for that period even though he/she could perform some other kind of duties.

Some "Own Occupation" clauses add additional wording such as "providing the insured is not insured is not receiving remuneration for other work or services". Mutual of Omaha's policies do not include such wordings and therefore, are very attractive since they pay for a minimum of twelve months even if the hygienist is engaged in another occupation.

It is uncommon that professional persons would wish to remain out of the "work force" for any period that was longer than necessary. On the contrary, due to their professional morals and work habits, they would normally tend to return to their duties sooner than one would otherwise expect. The Rehabilitation Clause in Mutual of Omaha's policies continues benefits for a full year, when the hygienist is enrolled in a company-approved Rehabilitation program — and without

reduction for any income received during the period. This provision has helped many people regain the dignity of returning to the work force following a long period of disability.

Certainly after a period of one year, on Total Disability from his/her own occupation, the hygienist would be expected to return to an occupation, if he/she were capable, befitted by reason of experience, training or education. It must always be remembered that you could not be expected to perform in an occupation which was below your dignity or status in the community. For example, one could not expect a doctor to become a cab driver.

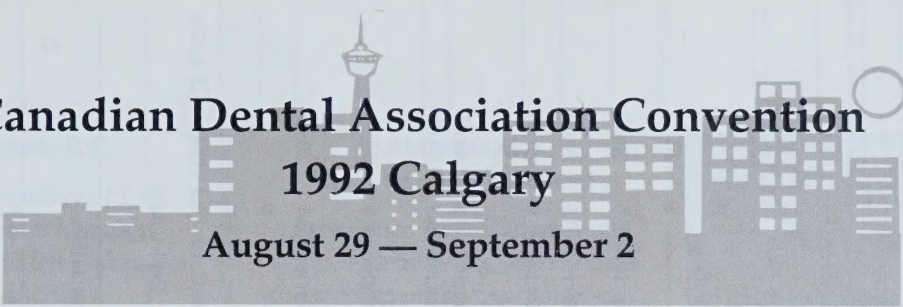
After considering this information, it is our opinion that having a lengthy "Own Occupation" clause would be beneficial to the insurance company because of the high premiums charged. However, it would be disadvantageous to CDHA members, bearing in mind the facts mentioned above. It can be expected that as society's need for constant retraining increases, the premiums for those unwilling to do so will increase.

It is evident that when comparing disability benefits there are some differences in the coverage available; however, often the difference of real substance comes down to price. The CDHA sponsored program can be as much as \$800.00 to \$1,000.00 per annum lower in premium. It is very important to know your needs before purchasing a program. Depending on individual needs and circumstances, different plans appeal to different members. There are some incidences when payment for long-term "Own occupation" is beneficial: unable or unwilling to return to university or learn new skills, disability at a later age (i.e. 50-plus)

UPDATE

As of mid-April 1992, Citadel Insurance is not issuing new policies for disability insurance. This in no way affects current policy holders but does remove the long-term disability "Own Occupation" policy CDHA had endorsed for the small number of members who were in need of an extensive program. As outlined above, the majority of CDHA members do not fall in that category, and are advised to consider standard policies while investing in compound interest saving policies. CDHA's Member Services Council will continue to investigate new programs which may be beneficial in providing extensive coverage.

In addition, we are pleased to inform you that mutual of Omaha has agreed to increase the disability income for CDHA members from \$2,000.00 to \$2,500.00 per month.



Canadian Dental Association Convention

1992 Calgary

August 29 — September 2

Calgary: A great convention for dental professionals

I would like to issue an invitation to all dental hygienists in Canada to join your colleagues at the CDA Convention in Calgary, August 29-September 2, 1992. Calgary's attraction lies in the contrast of a modern vibrant city with a backdrop of breathtaking mountain scenery. The warm hospitality of Calgary makes this city the perfect location for a CDA convention delegates can't help but enjoy.

The upcoming convention promises to be a great continuing education opportunity for all dental professionals. The scientific team boasts renowned speakers who will provide the most up-to-date information on a broad spectrum of topics including; infection control, nutrition, pharmacology, periodontics and orthodontics.

The dental hygiene program will feature a professional development component. Two workshops are planned — Continuing Education and Supervision — to provide an opportunity to meet with colleagues and exchange ideas on pertinent issues. Enrolment in the workshops will be limited, so do register early. All delegates are encouraged to attend the "Workshop Results Summary" on Tuesday, September 1, 1992.

The convention promises to be an action-packed event with a great social program. The Alberta and Canadian Dental Hygienists Associations will be sponsoring a reception and evening banquet with a popular a cappella group providing the entertainment.

Come and experience Calgary's energy and enthusiasm at your next CDA Convention.

Kathy Gernhard,
ADHA Convention Chair

To register for
ADHA Dental Hygiene Workshops,
call 1-800-267-5235

Convention update.....

Preliminary Program

Saturday August 29

- Registration and preconvention lectures.

Sunday August 30

- Registration and preconvention lectures.
- Opening ceremonies featuring Stampede Show and "The Young Canadians".

****Dental Hygiene Workshops** (limited enrolment)

Workshop A

**Continuing Education —
What can it do for you?**

- Facilitator: Charla Lautar
- Focus: Present and future educational directions, career options, work satisfaction and their impact on the dental hygiene profession.

Workshop B

**Supervision — Interpretation
and Projections**

- Facilitators: Brenda Walker & Josephine Juchli
- Focus: participatory discussion and exploration of supervision modalities and the impact these modalities have on the provision of dental health care.

Monday August 31

- A choice of 15 different lecture topics.
- Evening rodeo show, barbecue meal and western dance (ticketed event).

Tuesday September 1

- A total of 15 different lecture topics to choose from, including:

****Presentation of Dental Hygiene Workshop Results by facilitators**

****Annette Ashley-Linder, RDH, will speak on The Recall Appointment — Design for Clinical and Productive Success and Developing a Successful Dental Hygiene Department.**

****Dental Hygiene Reception and Banquet, featuring a popular a cappella group as musical entertainment (ticketed event).**

Wednesday September 2

- Scientific program during morning session.

Please note: Registration provides access to scientific sessions, exhibits, opening ceremonies, two stampede breakfasts, and dental hygiene workshops.

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Calgary • August 29 - September 2, 1992

PRE-REGISTRATION FORM • Please PRINT

ONE FORM PER PERSON. To ensure your requests are accommodated – *register early.* Advance registrations will be accepted until **July 10, 1992** after which they will be returned to the sender. Each on-site registration will be subject to a \$27.00 administrative fee (GST included).

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 ADDRESS: _____ (Street) _____ (City) _____ (Province)
 TELEPHONE: () _____ () _____ (Residence)
 (Postal Code) _____ (Office) _____
 CDA Membership Number: _____ License Number: _____

PRE-CONVENTION • AUGUST 29, 30 • LIMITED ATTENDANCE

SATURDAY, AUGUST 29

Jennifer de St. Georges – PRACTICE MANAGEMENT – Lecture

Dentist \$ 155.00

Staff \$ 70.00

Howard Martin, D.M.D. – ENDODONTICS – Hands-on Program

Dentist (limited to 40 participants) \$ 185.00

SUNDAY, AUGUST 30

Terry Donovan, D.D.S. – RESTORATIVE – Lecture

Dentist \$ 155.00

Staff \$ 70.00

Jay Friedman, D.D.S. & Gary O'Brien, D.D.S. – IMPLANTS – Hands-on Program

• TWO-DAY COURSE: SATURDAY AND SUNDAY •

Dentist (limited to 40 participants) \$ 350.00

* GST is not charged on Pre-convention courses / Lunch is included in Pre-convention courses.

CONVENTION • AUGUST 31, SEPTEMBER 1 and SEPTEMBER 2 (a.m.)

☐ DENTIST

Member, CDA or Alberta Dental Association \$ Nil

Non-member, Others (7% GST included) \$ 190.00

Includes: Scientific sessions, exhibits

☐ DENTAL HYGIENIST

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Non-member (7% GST included) \$ 115.00

Includes: Scientific sessions, exhibits

☐ DENTAL ASSISTANT

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Includes: Scientific sessions, exhibits

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Sunday – Opening Ceremony – Subject to space availability

Will attend ☐ Yes ☐ No \$ Nil

Monday – Stampede Rodeo Night

(per person) (7% GST included) \$ 50.00

Tuesday – President's Gala – "Western Formal"

(per person) (7% GST included) \$ 70.00

FUN RUN – Monday A.M. (7% GST included) \$ 20.00

GOLF TOURNAMENT – Friday, August 28 H/C _____ AVG. _____

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..... Spouse / Guest – excluding golf (7% GST included) \$ 50.00

CDHA Reception and Banquet –

Tuesday, September 1, 6:00 p.m. (7% GST included) \$ 50.00

CDA / ADAA Awards Gala –

Tuesday, September 1, 6:00 p.m. (7% GST included) \$ 25.00

TOTAL \$ _____

The above registration fees are paid by _____

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☐ Do not require a room

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Coming in the Autumn Probe ...

- CDHA New Code of Ethics
- Report on Victoria Conference
- Exciting information on upcoming Research Conference in Niagara Falls
- CDHA Supervision Statement

Hepatitis B...

Continued from page 71

If the hygienist acquires acute hepatitis B or is a chronic carrier, expert medical advice should be sought regarding the potential risk to patients.

4. OTHERS GROUPS

As dental health care providers, hygienists should have knowledge of the other risk groups for whom prophylactic immunization is recommended.

- Sexually active homosexual and bisexual men
- Sexually active heterosexual men and women, especially those having multiple sexual partners and/or sexually transmitted disease.
- Household contacts and sex partners of persons with acute hepatitis B or who are chronic carriers.
- Staff and residents of institutions for the mentally disadvantaged.
- Hemodialysis patients
- Recipients of clotting factor concentrates
- Prison inmates.
- Travellers visiting, for more than six months, areas where there are high rates of hepatitis B and where close contact with the local population is anticipated.

Summary

An opportunity exists in Canada to effectively control the transmission of hepatitis B by implementing appropriately focused vaccination programs. Recent studies have identified those individuals most at risk. Recommendations have been made, which will vaccinate these groups before they are exposed to situations and behaviours at high risk for hepatitis B transmission. Adoption of the recommendations will do much to curtail hepatitis B — a preventable infection. ■

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Comment...

Continued on page 90

of connectedness. The experience of being valued by a group for whatever contribution you are able to make (regardless of how small), contributes to empowerment by building a sense of self-worth and self-confidence.

As we experience success in small steps we gain confidence, making the next challenge seem less daunting. Increased self-confidence often spills over and positively affects other aspects of our lives.

Many dental hygienists are involved in a struggle to achieve a sense of control over major forces affecting their lives. While this struggle may be painful, exhausting and costly in terms of personal commitment, the personal growth that results is part of the empowerment process.

We are lucky that we have had, and continue to have, excellent role models in the dental hygiene community. Mentors provide vital role models for those in the process of gaining insight into personal and professional situations.⁵ Commonly described attributes for role models in the empowerment process include; assertive, confident, accepting and valuing of other people. As health professionals, it is important to be good role models for both our patients and our colleagues.

As our profession grows, we should ensure that the things we have learned about the process and importance of empowerment are introduced into our relationships with our clients in both the private and community health setting. We can start by understanding the importance of valuing each individual as a person. We can treat each client as an equal. We can make information available in a form that is easily understood and directly applicable to a person's situation. We can point out professional concerns about the client's health without expecting the client to "own" our concerns. We can really listen to our clients. We can believe in our clients' capabilities and avoid focusing on their deficiencies. We can be approachable and make our clients feel they have a perfect right to question us, our methods and suggestions. We can accept and value our clients as individuals. **We can be facilitators of empowerment.**

Part of the challenge for dental hygienists for the twenty-first century is to become script writers for our own future: But let's also remember that our clients are entitled to participate in creating the script for their dental hygiene care. ■

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Shirley Bassett is Supervising Dental Hygienist of Community Dental Programs in the Capital Regional District (Victoria, B.C.). She is also President of the British Columbia Dental Hygienists' Association.



by Shirley Bassett, DipRDH, BScD

"After reading the Spring issue of *Probe*, I started this article by writing about the concepts of health promotion and how they can be used by dental hygienists to enable their clients, communities, families and friends to attain better health; but I found myself wanting to work backwards and discuss achieving health for ourselves first. A key factor in health is empowerment, or feeling in control of one's own life. It seems logical that until we empower ourselves and feel we have control over our own personal and professional lives, it will be tough to assist others in that achievement."

What is empowerment? Simply put it is being in control of your own affairs. However, it also conveys having social influence, political power and legal rights.¹

Personal control — its presence or absence — can directly impact people's health. Feeling powerless to control our work situation, the quality of our housing, our income or our personal relationships can undermine our capacity to control our own health.²

Dental hygienists are beginning to experience the empowerment process as they move forward to gain control of their own profession. The good news is that the very struggle they are engaging in, will in itself, facilitate empowerment.

Researchers who have documented the process of personal empowerment describe many conditions and factors which facilitate this process. Some of these include: having a vision of the future; learning that you have the right to voice your opinions and ask questions; having others listen, understand, believe in you and focus on your capabilities (not deficiencies); participating in a group and feeling valued for your contribution (regard-

less of how small); having role models to emulate; and having certain external resources (such as time and money), and internal resources such as energy available at the right time.

At a recent conference a speaker said: "If you don't have a reality of your own anybody's will do; and if you haven't played a part in writing your own script, then don't be surprised if you're not living one that you own".³

In my view dental hygienists have, to a large extent been living a script which they have not written. However, change is on the horizon. Dental hygienists are daring to dream of creating their own script for the future.

This is healthy. When we look at the definition of health promotion, it clearly identifies that "to reach a state of complete physical, mental and social well being an individual or group must be able to identify and realize aspirations, to satisfy needs, and to change or cope with the environment."⁴

Having dreams and aspirations may be the first step to personal empowerment. Researchers have found that the individuals who

achieved the greatest degree of control in their lives were those who refused to accept their situation, and instead kept questioning and searching for options. They were the people who allowed themselves to dream and then acted upon those dreams.¹

We have seen dental hygiene organizations across the country trying to acquire the legislated right to make key decisions about the profession of dental hygiene. What has triggered these groups to take action to change conditions? The transition to empowerment frequently begins with a crisis, anger or outrage which are motivational triggers. Whether it was anger over the lack of input to regulatory boards; lack of official recognition for dental hygiene organizations by dental colleagues; or the realization that dental hygienists were powerless to prevent unfavourable decisions being made affecting the dental hygiene profession; they were moved to action.

Dental hygienists began speaking to each other, to others in the dental community, to different disciplines and to governments. Learning that they have a voice, the right to speak and to question are important to the empowerment process. Finding that people are willing to listen and understand is also key.

In provinces that have been granted self-regulatory status, dental hygienists have risen admirably to meet the expectations of both government and their own membership. Those governments have obviously chosen to focus on dental hygienists' capabilities. High expectations signify confidence which is another key to empowerment. Low expectations, on the other hand, can be debilitating.

Conditions which are conducive to the empowerment process can be experienced by participating in a dental hygiene organization. It can provide increased social contact, reduced professional isolation, and can enable us to take part in meaningful activity which builds self-esteem and a sense

Continued on page 89

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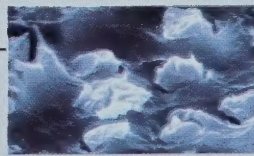
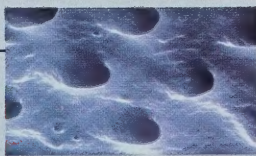
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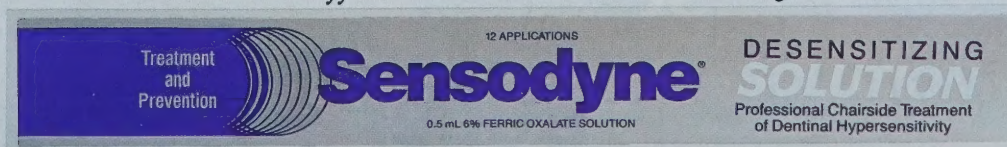
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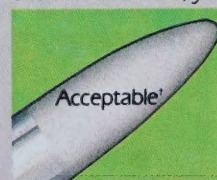
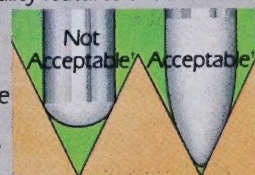
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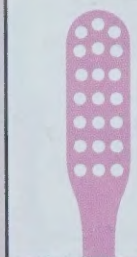
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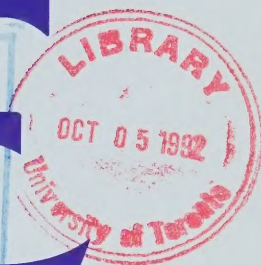
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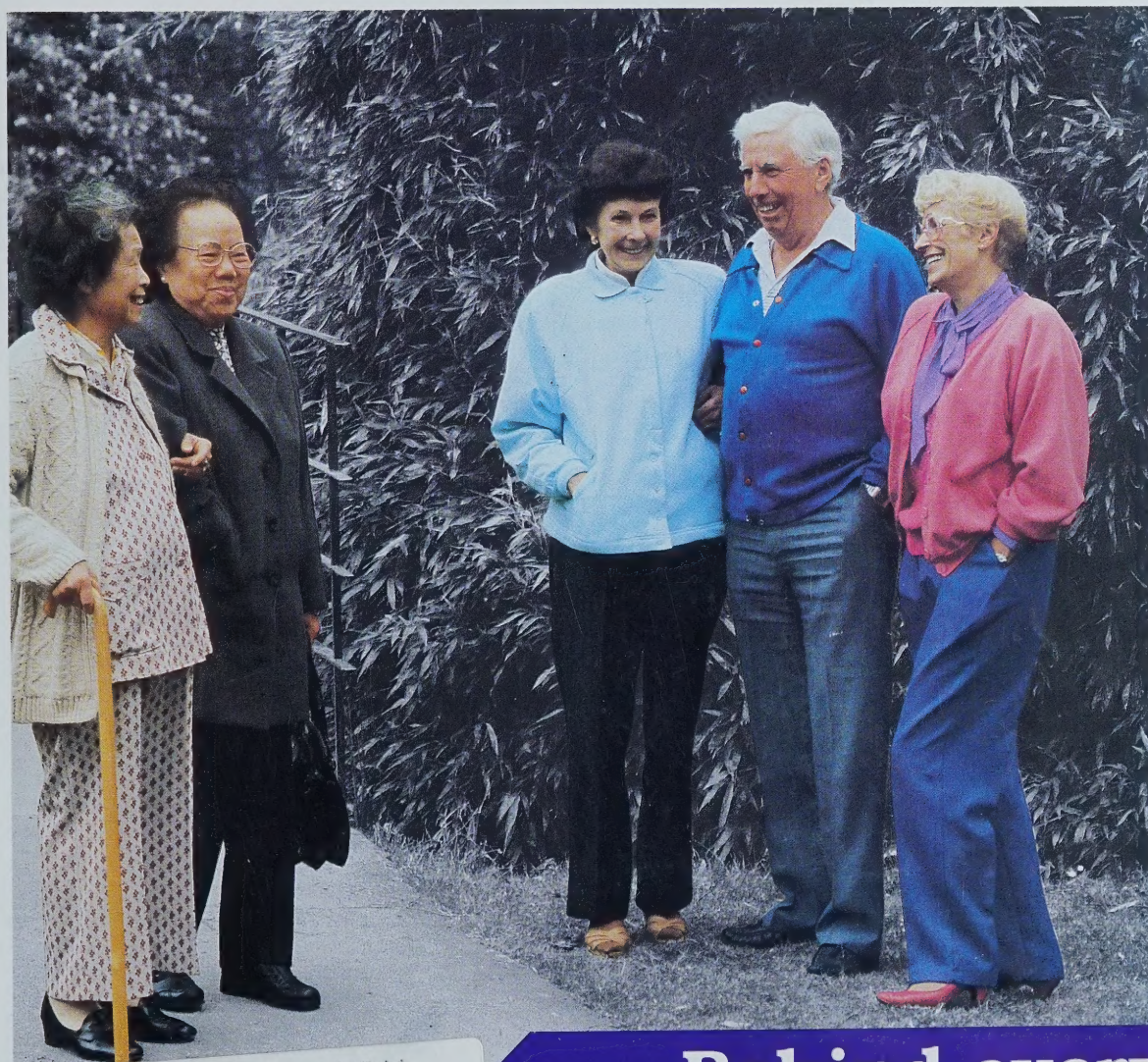
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PROBE



volume 26, no. 3

Autumn 1992 automne



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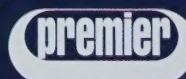
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Lorraine Boomhour, RDH, of Brampton, Ontario, received her Dental Hygiene Diploma in 1978, and obtained her Expanded duties in Dental Hygiene in 1979. She has been active in both CDHA and ODHA for many years, serving as director and president (1987-88) respectively. She is currently in private practice.

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The mission of the Canadian Dental Hygienists' Association is to cultivate, promote and sustain the art of dental hygiene, to maintain the honour and interests of the dental hygiene profession and to contribute toward the improvement of the health of the public. What does it mean to have a mission statement? Why does CDHA have one? Does every dental office, school, business or association have one? Should you have one?

A mission statement could be described as a guide, a philosophy, a creed or a reason to be. A mission statement, whether it is for an association or a dental office helps one to determine and evaluate any issue or activity. It is the basis for all decision making.

Every year the CDHA Board of directors reviews the mission statement and the goals of the association. Although the mission statement has remained constant, the order of priority of our goals has changed. Each of the five councils has its own set of goals which also are in accordance with the CDHA Mission Statement. When a project is drafted it must be

consistent with the association's goals before it receives budget approval. The project therefore begins with the end in mind.

Victor Frankl, in his book, *Man's Search For Meaning*, writes: "Everyone has his own specific vocation or mission in life.... Therein he cannot be replaced, nor can his life be repeated. Thus, everyone's task is as unique as is his specific opportunity to implement it."

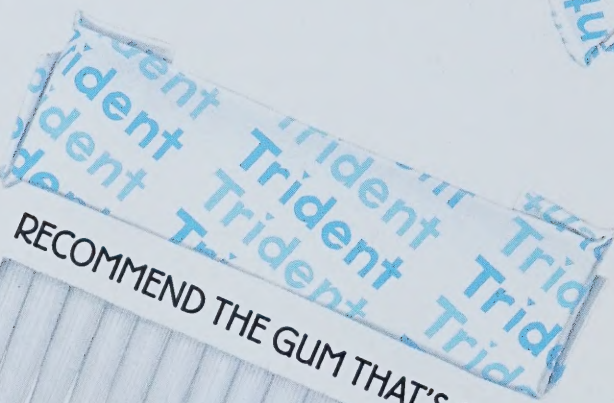
Frankl says we detect rather than invent our missions in life. When we are clear about our mission we are clear about what we want to do or be in life. When we take the time to write our own personal mission statement, it enables us to focus, on our role within the dental hygiene profession, our association, our family, our work, our own health and the community where we live. We become proactive rather than reactive with a definite purpose in life. Formulating a mission statement with related goals requires many hours of values clarification. Roland Michener, former Governor General of Canada, made a decision at an early age to be fit and healthy at age ninety. To accomplish

this goal he played tennis and exercised daily. As a result he has earned a remarkable reputation and has provided an excellent example of an individual guided by a clear personal mission.

As CDHA President and a CDHA member, my actions and decisions will be determined by the CDHA mission statement. As a practicing clinical dental hygienist I am guided by the mission statement that my employer, co-workers and I have written. "We believe that each individual is responsible for their own well being. We assist people in achieving their desired level of health in an environment supportive of self-esteem and individual growth. We provide excellence in personal and professional care. Our commitment is to make a difference." As you might imagine I, too, have a personal mission statement and this year I have included goals pertaining to my position as President.

Become clear and focused, write a mission statement and set goals. If you are forty years old you have spent 14,600 days on this earth and if you agree with the life expectancy of 70 years, you have only 10,950 left! If you are 50 only 7,300! What do you want to do with the rest of your life? Look at your role within CDHA? Is it member, director, executive, local, provincial, or national? Look at other roles in your life. Make a magnificent picture (a mission statement) of what you can do, then do it. You can change the world.

I sincerely look forward to the coming year as we meet on this page and in person. I trust we will become better acquainted. Please feel free to call Central Office, call me at home or write. We want to hear from you and rest assured that your opinion matters. 🌟



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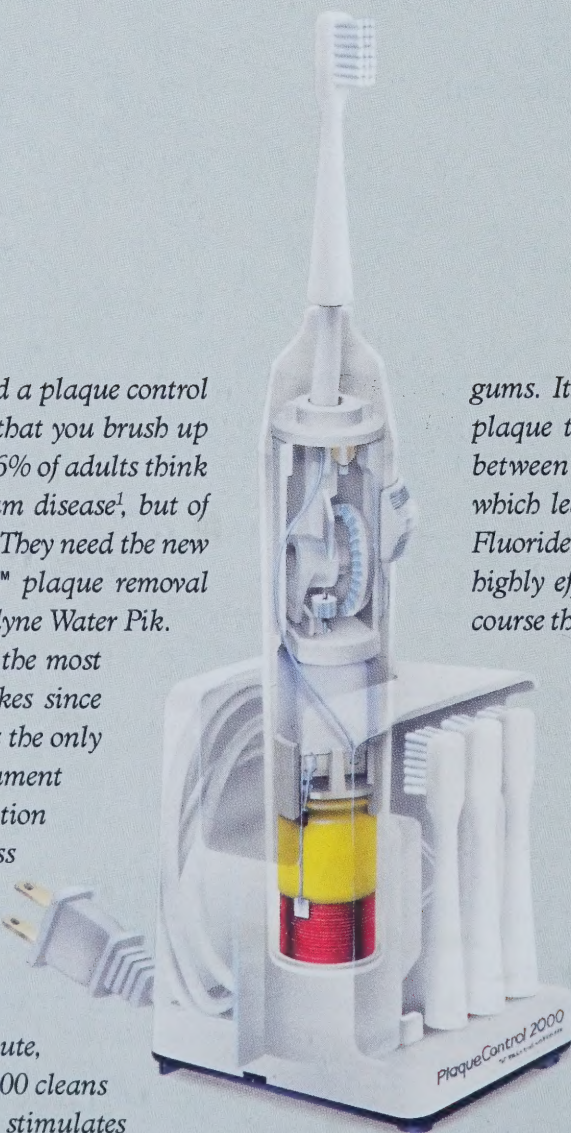
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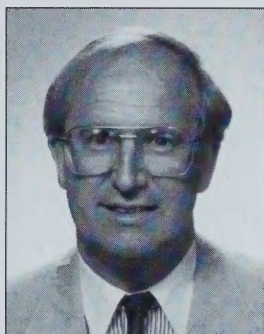
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*John Hardie, BDS, MSc, FRCD(C),
Head of the Department of Dentistry,
Vancouver General Hospital*

In dentistry, most currently recommended infection control techniques and products are ineffective, inappropriately used, and create a misleading sense of security. Such a seemingly heretical statement demands an explanation.

Although the mouth is host to a complex mixture of microorganisms, fortunately, from an infectious disease perspective, these organisms have a very limited ability to spread disease. This fact ensures that such pleasurable activities as embracing, kissing, and eating out are not injurious. Similarly significant is the realization that it is these organisms which contaminate hygienists' hands, their instruments, and their working environment, and the appreciation that such organisms are unlikely transmitters of disease even if they were not actively removed or destroyed between patients.

However, microorganisms don't induce infections on their own. They require two essential factors. First, an opening or portal of entry to gain access to a new host, and second, a new host who is susceptible to the organisms. Fortunately most dental patients are healthy and non-susceptible to residual oral organisms from previous patients. In addition, most hygiene treatment is minimally invasive and does not create significant portals of entry. Therefore, the potential of transmitting disease in dental hygiene practice — even without

infection control procedures — is minimal. To emphasize this is the realization that infections following treatment to severely immunosuppressed patients (who are the most susceptible) are caused by the patients' organisms which become opportunistic rather than by ones transmitted from other hosts or the environment.

Since these facts would appear to advocate minimal infection control standards for dentistry why are current recommendations so exhaustive? Principally because all clinical dental staff may be exposed to blood and hence to the human immunodeficiency virus (HIV). It is only the identification of this virus which has created the present concern with infection control. Is such an interest warranted?

After almost twenty years of HIV existing in N. America there is scant evidence of it being transmitted via dentistry. (The Florida case neither proves nor disproves a dental route of spread.) However, it is known that HIV is not spread via aerosols, blood soaked gauzes, eating utensils, drinking vessels, insects, or from inanimate objects such as countertops, pencils, or telephones. A lengthy Canadian study has failed to demonstrate HIV infection occurring in 450 health care workers occupationally exposed to HIV+ blood. Interestingly, in some instances the exposures happened even though gloves, masks, gowns, and eye

protection were worn. It should be appreciated that the use of such barriers offers no protection from the established routes of HIV transmission which are — *anal sex, I.V. drug abuse, and childbirth*. In addition, there is the growing realization that HIV may not be the cause of AIDS. Perhaps AIDS, like most syndromes, is a non-infectious condition.

All of the above should question the credibility of present infection control recommendations. It is a personal belief that these have been developed in response to a misperception by colleagues, the supply industry, politicians, and reporters, as to the ability of acquiring AIDS via dental procedures. No doubt some will justify present guidelines on the basis of another blood borne virus, hepatitis B virus (HBV). However, the single most effective method of eliminating its transmission is the vaccination of all clinical staff.

Are there any useful infection control procedures? Washing hands before and after intra oral procedures, sterilizing instruments which are surgically invasive, and the hepatitis B vaccine are all effective. The rest are much ado about nothing, although they may provide a perceived rather than a true security to staff and patients. ■

Editor's note: I cannot agree with Dr. Hardie that "most of our dental patients are healthy", nor that "dental hygiene treatment is minimally invasive". I do agree that we should continue to sort out the facts regarding "proper infection control". Until we do, aren't we better to err on the safe side?

What are your comments on the infection control debate? Please write and let us know where you stand.

Management of Dental Hygiene Care

CDHA Position Statement June 1992

Introduction

Dental hygienists are licensed primary oral health care professionals who possess a unique body of knowledge, distinct expertise, recognized standards of practice, and a Code of Ethics. As integral members of the oral health care system dental hygienists provide preventive, educational, clinical and therapeutic services. The dental hygiene process of care includes assessment, treatment planning, implementation and evaluation.

The profession of dental hygiene maintains and promotes the highest standards of oral health care. This position statement is a resource for those responsible for defining and rationalizing the legislation, roles, responsibilities and working relationships of health care personnel involved in the promotion and delivery of oral health care.

The Canadian Dental Hygienists Association (CDHA) supports collaborative practice wherein a partnership exists between dental hygienists and other health care professionals participating in the delivery of comprehensive oral care. The management of dental hygiene care reflects policies of provincial licensing authorities as determined by provincial legislation.

Guiding Principles

Every Canadian is entitled to access comprehensive oral health care. The dental hygiene profession promotes access to affordable oral health care through alternative practice arrangements and non-traditional work settings. Examples include long-term care facilities, community health clinics, home care programs and other outreach programs. CDHA is committed to the attainment of these goals by working in co-operation with government, health agencies, public interest groups and other health professions.

The management of dental hygiene care must ensure protection of the public and quality of care through appropriate consultation between the dental hygienist and other health professionals. Other factors to consider include: health assessment of the client, the risk associated with the procedure, the client's right to be an active participant, the expertise of the oral health care professional and the support of other health personnel.

Dental hygienists have a legal and an ethical responsibility to their clients and are personally and professionally accountable for the care they provide.

CDHA's New Code of Ethics 1992

The Canadian Dental Hygienists Association's first Code of Ethics was adopted in 1964. In 1989 CDHA's Professional Development Council requested a revision of the Code to respond to the changing needs and values within both the profession of dental hygiene and society.

The committee responsible for writing this new code included: Nancy Prowse, Chair, Brenda Fortune, Dr. Bruce Graham, Wendy Halowski, Laura MacDonald, Susan Matheson, Mary Bondarchuk all of whom have provided expertise based on their experience and teaching in this field.

Dr. Arthur Schafer, (Manitoba) and Dr. David Ozar (USA) both leading participants at the CFDE/CDA Conference on Ethics (Toronto 1989) were consulted throughout the process. The document when completed was given final review by legal council representing the Dental Hygienists' Licensing body for Alberta.

The Canadian Nurses Associations' Code of Ethics was chosen as the working model for the CDHA Code. Ethicists and practitioners recognize the Nursing Code as an educational document that provides reflection and dialogue regarding health care issues. CDHA is indebted to the Canadian Nurses Association for their co-operation.

The 1992 CDHA Code of Ethics is vastly different from the 1964 original. Rather than setting down rules for behaviour, the new code includes values and standards for the profession of dental hygiene. It is a thoughtful forward document designed to guide dental hygienists in their practice today, through changing times into the 21st century.

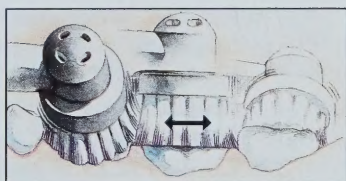
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CDHA Board of Victoria,



The 29th Annual Meeting of the Board of Directors of the Canadian Dental Hygienists Association was held June 6, 1992, at the Hotel Grand Pacific, in Victoria, British Columbia. The meeting was called to order by Speaker, Lynn James. President, Terry Mitchell began the meeting with opening remarks. Then followed the introduction of guests who included representatives from: dental hygiene licensing authorities in Alberta, Ontario, and Quebec; Canadian Actuarial and Consulting Group; Canadian Dental Association; Provincial Constituent Associations; and general members. The transactions of the 28th Annual Session of the Board of Directors held June 10-11, 1991, and of the Board's interim meeting held January 25, 1992, were approved.

Meeting Highlights

- The 1993 Professional Conference on Dental Hygiene Research will be hosted by CDHA in Niagara Falls, October 15-17.
- CDHA continues to correspond with the Corporation professionnelle des hygienistes dentaire du Quebec regarding mutually important issues.
- A disease prevention and infection control position statement is being developed for Board consideration by Practice and Regulation Council through consultation with Jackie Smorang, CDHA representative to the CDA Committee on Institutional and Community Dentistry.
- General business resolutions were adopted.
- The Annual Session of the CDHA Board of Directors will be held in Ottawa, June 20, 1993, and Council Workshops from June 16-19, 1993.
- The 1994 Annual Session will be held in conjunction with the professional conference during June in Saskatoon. The June 1995 Annual Session will be held in Halifax in conjunction with the professional conference.
- Linda Elkins was elected Vice-President of CDHA; Ellen Brownstone was appointed as junior CDHA Director to IDHF; and Lynn James was appointed Speaker. Congratulations to all.
- CDHA has requested direct representation on the CDA Council of Education.
- Charla Lauter, Calgary, was awarded the CDHA Research Fellowship for 1992-93.
- Professional Development Council presented "Caring for the Older

Directors Meeting, June 6, 1992



Adult: A Resource Book" It contains pertinent information on seniors concerning programs, speakers, pamphlets et cetera.

- The final draft of the CDHA Code of Ethics was approved (and included with this issue of Probe). Our thanks to Nancy Prowse and her committee for all their hard work.
- Funds were allocated for CDHA representation at the CFDE/CDA teaching conference and the AADS Chicago meeting in 1993.
- Funds were allocated to the Manitoba and British Columbia Dental Hygienists Associations to support self-regulation.
- Three National Certification meetings have been funded for 1992-93 to continue the national certification process.
- Practice and Regulation Council received funding to produce a CDHA discussion paper on

human resources as they pertain to dental hygiene.

- CDHA statement on management of dental hygiene care was adopted (see page 100).
- The Ontario, New Brunswick, and Newfoundland Dental Hygienists Association Constitutions and By-Laws were approved by CDHA.
- Probe will now be published six times a year, beginning 1993.
- Joanne Laventure, a student from the University of Alberta, and Susan Wdowiak from Dalhousie won the Aqua-fresh Student Hygienists Scholarships.
- The 1992 membership campaign was approved.
- Member services projects approved for funding include: completion of a CDHA member services benefit package prototype, the extrapolation of demographic data from

membership files, enhancement of membership inserts, development of a student recruitment package.

- A CDHA Community Health Audio-Visual Library Catalogue has been compiled and will be outlined in an upcoming issue of Probe.
- The logo for the 1992 National Dental Hygiene Campaign will be "Behind every great smile ... is personal and professional dental care". As part of a five-year campaign, this year will focus on the older adult.
- The Provincial Association Presidents' second annual meeting was held in conjunction with the CDHA Annual Session.
- A very special thank you to Judy Parker, Board Meeting Co-ordinator, whose planning and expertise made for a most successful meeting.

New News for Editor's



(l. to r.) Terry Mitchell, CDHA President; Marry Ann Hayes, B.C. government; The Hon. Elizabeth Cull, B.C. Minister of Health and Minister

The sunshine on sparkling jewelled islands, in the Georgia Straits below, was our welcome to this year's professional conference, "New News for Older Smiles". Even the flight to this island, where picturesque Victoria lay, was a tour in itself. Having left the frigid spring of Ontario behind, this was a sign of good things to come.

The program was no less impressive than the setting. The first night's wine and cheese reception was entertained by a senior's band — a great introduction to our theme. I always like to attend the reception. It's a good time to renew old friendships and make new acquaintances — Hi Eileen O'Neill and Lori Kerr! It's interesting to hear what new things your colleagues have been up to professionally: what's happening in their provinces and to offer or seek encouragement for new endeavours to come. It's a time to compare agendas, plan where you'll meet later and what adventures you might indulge in during the free time. It's a babble of fun and excitement which sets the stage for the two days to come.

The program included an impressive array of speakers, covering many aspects of oral health for seniors. We heard from them personally in Jenny Thomas' work shop, outlining their dental needs and concerns. Judith Soon was able to inform us on the oral implications of multiple drug therapies often experienced by the older adult. Our keynote speaker discussed the quality of life as ageing occurs and the role oral health and the dental hygienist can play in the lives of our seniors. We attended lectures on the caries in our ageing patients and also received information on current issues in nutrition.

Speaking of nutrition; the luncheon were events in themselves. Not only di



Older Smiles Report



Responsible for Seniors; Shirley Bassett, BCDHA President; Lorraine Boomhour, CDHA President-Elect; Ninfa Nicol, CDHA Conference Co-ordinator.

we have very creative and unusual menus but the programs were memorable. A local Native designer, Edith Newman presented us with a walking art show displayed in the clothing of her family and clan members. It was outstanding and I know of several hygienists who went home with wearable works of art.

Our dinner function took us to the Native Heritage Centre on the banks of the Cowichan River to partake in a traditional Potlach in the longhouse of Lorraine Charley and her kinsmen. We learned of the history of these gracious people through a filmstrip produced by the Cowichan people and saw them at work creating a totem pole and a canoe. We visited their art centre and listened to their stories around the campfire. They entertained us with ceremonial dancing and we were able to be part of the traditional ceremony of the "drumming-in" of the first salmon of the spring. It was truly one of the highlights of the conference; fascinating.

Next year we congregate in Niagara Falls; a somewhat special and unique event is planned. We will invite our American colleagues to join us for a conference on research. Now don't let me scare you away; this is a conference for Everyone, the merely curious as well as the experienced. Perhaps we should say it's aiming to be "everything you ever wanted to know about research but were afraid to ask".

Our planning committee is excited about the fact that they are well on their way to providing a conference in the proven tradition of CDHA; current, informative, fun, and relaxing; complete with a few surprises. Don't just read about it next year; be there! You'll never miss one again!



A show of Appreciation/A round of Appreciation



Joan Degan (lower centre) with colleagues

This past June, dental hygienists from Victoria hosted the 3rd annual professional conference for CDHA. These conferences are designed to bring continuing education to areas of our country that normally wouldn't host a large dental convention. The CDHA Board of Directors has recently voted on a motion to continue with these conferences. Having attended "New News For Older Smiles", I can understand why! From the opening ceremonies, with a visit from the "Queen", to the launching of CDHA's "Behind every great smile..." campaign, it was one delightful event after another. The program was comprehensive, well-organized and made one proud to be a member of this profession. On behalf of all the registrants I would like to thank Ninfa Nicol, Holly Wilson and her organizing committee for a job well done.

This convention also saw CDHA's first commercial table clinics. The enthusiasm shown by both dental hygienists and exhibitors will hopefully see this as a regular part of our future conference program.

The support shown by the dental companies in the way of sponsorship, donations and door prizes was overwhelming, and appreciated! Many thanks to all of you.

1993 will see our 4th annual conference in Niagara Falls, Ontario. CDHA will be hosting a North American Research Conference. Don't let the title scare you away. There will also be a program for you and I on how to evaluate research, what all the jargon means and, hopefully, some dental industry participation on their research. Plan now! October 15-17, Niagara Falls, Ontario.

A special thank you to Sherry Saunderson for all her hard work in organizing the following contributors of door prizes and items for the registration kit: (alphabetical order)

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During a year of economic hardships your support to the conference was very much appreciated. Once again, many thanks!

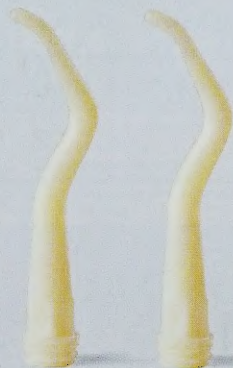
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Many thanks for your participation in CDHA's 3rd annual professional conference. The dental hygienists really appreciated seeing what's current in dentistry and having their questions answered. I hope to see you in Niagara Fall, October 1993.

Joan Degan,
CDHA Corporate Relations Officer

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Aqua-fresh Scholarship Winners



Joanne Laventure (L), with Susan Wdowiak

The Aqua-fresh scholarship program introduced this year is awarded to first and second-year dental hygiene students for their contribution and advancement of dental hygiene. The 1992 winners are Joanne Laventure of Edmonton, Alberta, and Susan Wdowiak of Halifax, Nova Scotia. Both of whom demonstrate great enthusiasm and commitment in their chosen profession. They also are actively involved in their national and provincial associations — encouraging their fellow students to become involved too.

Joanne and Susan each receive a \$1,000 scholarship, plus their accommodation and airfare to CDHA's Professional Conference in Victoria.

CDHA Certificate of Appreciation



Mary Ann Hayes (centre) holding her Certificate of Appreciation, with Terry Mitchell, CDHA President, (left), and Dawn Mueller (right), CDHA National Dental Hygiene Campaign Co-ordinator.

Mary Ann Hayes, RDH, Manager of Community Dental Programs for the British Columbia Ministry of Health, developed a series of six dental health promotional posters with co-ordinating information cards. This program, originally designed for the B.C. government, is now being used by CDHA to promote dental hygiene during National Dental Hygiene Campaign.

Ms. Hayes has considerable expertise in public health. She graduated in dental hygiene from Miami Dade, Florida in 1973, and after a short stint in private practice moved to public health. In 1976 she was appointed Regional Supervisor, Northern B.C., for the Provincial Ministry of Health. Ms. Hayes later became Co-ordinator of Dental Prevention Program for the City of Vancouver before moving to her present position in Victoria.

CALL FOR ABSTRACTS

Posters/Oral Papers/Table Clinics

CANADIAN DENTAL HYGIENISTS ASSOCIATION

announces a

NORTH AMERICAN DENTAL HYGIENE CONFERENCE

Research and Practice:

An Exploration into the Future

October 15-17, 1993 Sheraton Fallsview-Niagara Falls, Ontario, Canada

Submissions of abstracts for free papers, posters, and table clinic presentations which are related to any aspect of dental hygiene research are invited. Your intent to submit an abstract, including your name and title of the abstract, must be made known to the Committee on Selection, c/o CDHA by November 15, 1992.

The deadline for submissions of abstracts for free papers, posters and table clinics is January 1, 1993. Selection will be made on the basis of the quality of abstracts. Notification to authors of accepted or rejected abstracts will be made by May 15, 1993. All selected abstracts will be published in the Conference Program.

Completed papers must be submitted by September 15, 1993. They will be published in the Conference Proceedings.

Selection Committee:

• E. Brownstone (Canada), • Ruth Nowjack-Raymer (USA) • J. Clovis (Canada)

For additional information contact: CDHA Research Conference, 201-1018 Merivale Rd., Ottawa, Ontario, K1Z 6A5, Canada.

CDHA Vice-President



Linda Elkins

Linda Elkins, RDH, of Corner Brook, Newfoundland was elected Vice-President at CDHA's Annual Board Meeting, held in Victoria, B.C. in June. As a dental hygienist, Linda has been employed in a variety of work-settings which include private practice and public health. She is presently Department Head of the Department of Dentistry at the Janeway Child Health Centre, St. John's, Newfoundland.

University of British Columbia Dental Hygiene Degree Completion Program

The goal of the UBC Dental Hygiene Degree Program (BDSc) is to prepare dental hygiene graduates to be leaders in the field of dental hygiene and preventive dentistry. Educational opportunities have been designed to enable dental hygienists to adapt to health care systems demanding greater responsibility, accountability and quality. It is anticipated that graduates will assume new and changing roles in health care as administrators, educators, scholars to pursue study and research at the graduate level, consumer advocates, change agents and clinicians.

The BDSc program is two academic years in length and requires 60 credits of course work. A maximum of 30 credits of third and fourth year course work completed at other institutions may be transferred provided such work meets all the requirements of UBC and the program. This program is available on a full and part time basis and students can "specialize" or focus their education in the areas of community dental health care, allied dental education or advanced clinical practice. Part-time students have up to five years to complete.

Successful applicants are admitted at the third year level (see diagram). Admission requirements include a diploma in dental hygiene from an accredited program plus one academic year (15 credits) of transferable college or university courses. Selection criteria specify minimum grade point averages, structured interview results, relevant work experience and satisfactory references.

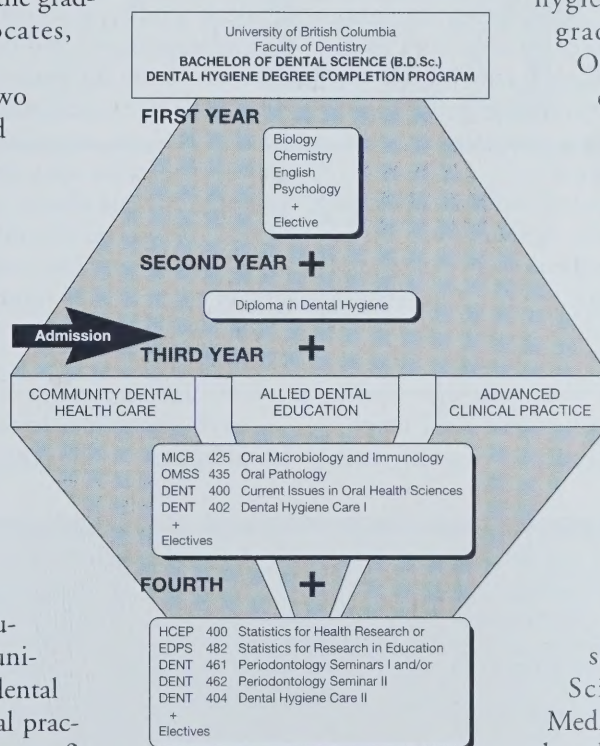
To meet the ongoing needs of a complex profession the program is committed to a strong educational foundation in the behavioural, biological, clinical and physical sciences and their integration.

Wherever possible dental hygiene degree students will study with other students. Core or required courses such as microbiology and oral pathology will be taken with the undergraduate dental students. The periodontology seminars include the dental hygiene degree students with the graduate periodontics students.

Other core courses have been designed to meet the specific learning needs and interests of dental hygienists and dental hygiene.

This program includes opportunities for students to choose elective courses from a wide selection of offerings in consultation with the program director. For example, students may choose electives from within the Faculty of Dentistry and/or from other faculties such as Education, Applied Science (School of Nursing), Medicine, etc. Externships and guided studies in dental hygiene are also an important part of this program.

Every effort has been made to make this program an accessible, flexible and relevant educational opportunity for dental hygienists. For further information please contact Bonnie J. Craig, Program Director at (604) 822-4680 or write Department of Clinical Sciences, Faculty of Dentistry, University of British Columbia, 2199 Westbrook Mall, Vancouver, B.C. V6T 1Z3.



National Dental Hygiene Campaign 1992

The Canadian Dental Hygienists Association is celebrating its fifth annual National Dental Hygiene Campaign by introducing a series of six fabulous posters. In 1987, CDHA's Board of Directors voted to increase the promotion of oral health and the role of the dental hygienist to the public. In October 1988, our first National Dental Hygiene Campaign was launched. Since then it has grown tremendously, and has been a great success.

This year CDHA's Public Relations Council decided to use the poster for the Older Adult to coincide with the Association's Professional Conference that was held in Victoria, B.C., in June. The fact sheets for this year's campaign are on Gum Disease, Oral Cancer, Denture Care and Mouth Care. They are printed in point form and large print making them easier for seniors to read. Also, bookmarks and display balloons are available for the Campaign. The "Behind every great smile... is a dental hygienist" sweatshirts are a great way to show you are proud to be a dental hygienist.

We urge you to become involved on your own or with a group of dental hygienists. Activities can be as simple as putting fact sheets and a poster in pharmacies, libraries, or seniors' clubs. A group of dental hygienists may want to hold denture identification clinics, self oral cancer examinations, or visit a nursing home and do a brush-in. Make your campaign visible by advertising in community calendars (i.e., neighbourhood flyers, newspapers, and television), and

putting notices up at the centres you plan to visit, plus pharmacies, and medical offices.

At the CDHA Professional Conference the seniors' focus group had many suggestions for dental hygienists. (You can read more about these on page 127). Seniors find they have a hard time identifying hygienists in dental offices. Therefore, make a commitment and wear your name tag which includes your surname. Today's seniors have very tight schedules and when planning activities at lodges, nursing homes and seniors' centres, check calendars to be sure nothing else is planned at that time. This will help ensure a good turn out and a successful event. Some seniors have difficulty hearing, especially those wearing hearing aids, so speak loudly, clearly, and slowly. Many seniors are on medications, so find out which ones cause xerostomia and inform the patient of the dental problems that can occur due to xerostomia. (See page 118 for further details).

Evaluations are very important in planning future campaigns! Please obtain an evaluation form from your NDHC Provincial Co-ordinator. Names and addresses are given below. One evaluation form is needed per activity — and they must be completed and returned to your NDHC Provincial Co-ordinator by October 31, 1992.

Get active in promoting your profession — each activity broadens the awareness of dental hygiene to the public.

Provincial Campaign Co-ordinators

Newfoundland
Pamela Vokey
Central Newfoundland Health Unit,
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H (403) 458-3325

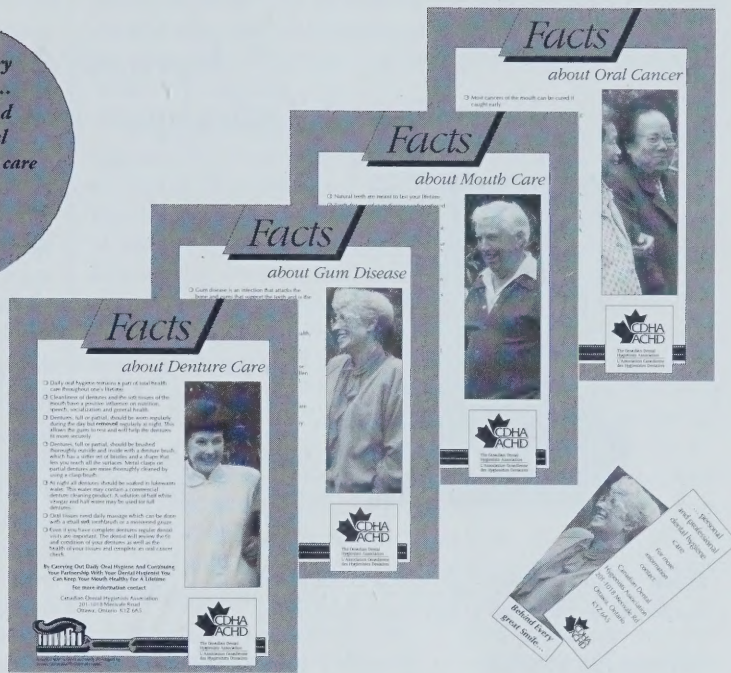
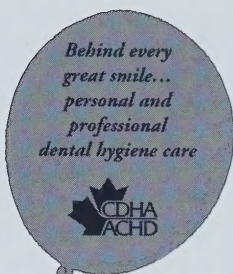
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J PO Box 151,
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B (604) 228-3501

Karen Gallagher
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H (604) 595-8674
W (604) 370-3190

Canadian Forces
Denis Cote
Canadian Forces Dental Services School,
CFB Borden, Borden, Ont. L0M 1C0

National Campaign Co-ordinator

Dawn Mueller
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Calgary, Alberta. T2J 5Z5
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Keynote Address

Behavioural Techniques in Oral Health Promotion



by
H. Asuman Kiyak, Ph.D.
University of Washington

Editor's Note: In order to be able to include the Keynote address in its entirety, we have had to reduce the size of type.

INTRODUCTION

As the number of older adults increases in the world's population, and as many of these older people retain their natural teeth, oral health promotion becomes more important for maintaining the quality of their oral health and ultimately their quality of life. This paper discusses a health promotion technique that our research team has found to be successful with diverse populations of older adults.

Behavioural Techniques:

What are the criteria for a successful oral health promotion effort for older adults? As with any age group, oral health promotion for elders should have, as its primary goal, the **enhancement and improvement of oral functions** (mastication, digestion, and speech) as well as the **improvement of appearance and psychological well-being** (the enjoyment of eating and communication, and enhanced self-confidence).

Quality of Life:

While dentistry has just recently begun to examine its role in maintaining quality of life, medicine has long asserted that treatment outcomes should enhance the individual's quality of life, as expressed in the ability to perform activities of daily living, to live independently and with a minimum of pain and discomfort, and to maintain psychological well-being. Because aging is often accompanied by physiological and cognitive changes, as well as systemic diseases and social losses that can impair one's quality of life, it is particularly important to address this issue of enhancing quality of life in older people. Our research has shown that improved oral function and appearance can significantly alter the older person's overall quality of life.

Successful Methods of Oral Health Promotion:

It is surprising that older people have been neglected as targets of oral health educational programs. Appropriate dental behaviours may never have been learned by some elderly. Correct methods of oral hygiene, use of fluorides, and prevention of periodontal diseases, have changed or expanded over the years, so that elderly persons who received dental health informa-

tion in their youth may hold on to outdated information (e.g. note the number of elderly who believe that brushing vertically against the gums and using a hard toothbrush are correct brushing techniques). This is compounded by the lack of regular dental care, making it difficult for older people to learn about new developments in dentistry.

The few reports of preventive dental education for the elderly have shown successful results. A preventive program in Denmark that combined frequent prophylaxes with oral health education was found to result in significant reduction of gingivitis (Gron, 1981). Scores on the gingival index, attachment loss and pocket depth improved within one year of this program. Gron notes that a frequent prophylaxis without education was not found to be effective with elderly patients. In another Scandinavian study, (Ambjornsen and Rise 1985) compared the effects of a verbal information program with one that combined information with a demonstration of denture cleaning methods. Both groups experienced short-term improvements in oral hygiene and in caring for dentures, but only the demonstration group showed improvements in oral hygiene six months later. This study highlights the need to emphasize active learning. Social reinforcement by the health educator and peers provides another important component of a successful approach to health promotion efforts with older persons.

RESEARCH USING

BEHAVIOURAL TECHNIQUES

Our research team has conducted six studies on improving oral health in older people over the past 14 years. The premise of these studies has been that older persons can still benefit from oral health promotion and can change their behaviour, even if the goal is secondary or tertiary prevention. Both dental and psychological outcomes have been measured, including plaque scores and gingival bleeding, frequency of home care behaviours, oral health knowledge, perceived control, morale and self-esteem. We have hypothesized that improved oral health can enhance psychological well-being and quality of life among older people. That is, the realization that one can improve one's own oral health and can see changes in a short period should result in improved morale and a greater sense of control over one's life. Furthermore, if one develops an improved perception of oral health, this perception should generalize to other aspects of health. Thus, the individual who comes to evaluate his/her general health status in a more positive manner will also develop a better sense of self-worth. These variables — perceived oral health, general physical health, morale, and self-esteem — have been measured before and after the experimental interventions in four of the six studies.

These studies have been conducted with cognitively intact elderly in an intermediate care nursing home (Kiyak, 1980), in senior centres serving ethnic elderly (Price and Kiyak, 1981), among depressed elderly in a nursing home (Kiyak and Mulligan, 1987), as a demonstration project throughout the state of Washington (Kiyak and Grayston, 1989), in a study

comparing oral health promotion alone or integrated with a general health promotion effort (Kiyak and Grayston, 1991), and most recently with high risk elderly (Kiyak, 1991). A key principle of behaviour change employed in these projects is self-monitoring. Self-monitoring has been defined as a behaviour management technique in which the individual keeps a daily or weekly record of his/her behaviours that are to be changed. Self-monitoring techniques have been applied successfully in programs of weight loss, exercise, stress reduction, and in gerontology, in programs to discontinue repetitious behaviours among institutionalized elderly (Sachs, 1975).

In the case of our oral health studies, we pre-determined the behaviours to be improved by all participants. Each participant was given a weekly chart on which he or she recorded the daily frequency of brushing natural teeth or dentures, rinsing the mouth, and soaking dentures. Flossing was not recorded as this has not been emphasized in previous studies. Each participant was asked to post this weekly chart on a wall by the sink at home where daily oral hygiene was performed.

Group members were asked to bring their chart to the first of the two sessions held each week. At that time, individual charts were reviewed with the group and individually. Participants who recorded more than one brushing and mouth rinsing per day were given positive reinforcement by the group leader, and other group members were encouraged to praise that person. Initially this intervention strategy began with tangible rewards (e.g. books, magazines, knitting supplies) to participants who successfully completed their charts each week. However, it soon became clear that most older persons responded more favourably to the verbal reinforcement, and were uncomfortable about receiving "prizes".

A thorough oral exam was first completed for each volunteer subjects, recording plaque, DMFS, and treatment needs. Those needing treatment for acute dental problems were generally seen on site by a project dentist. A hygienist performed a baseline prophylaxis on all participants. They were then interviewed in a standardized fashion. Subjects in the first nursing home study (Kiyak, 1980) were questioned about their dental history, current oral health status, perceived oral and physical health, morale (Lawton, 1975), and self-esteem using Coopersmith's (1967) measure revised for the elderly. Locus of control, using Rotter's (1966) measure of generalized locus of control, was used as a covariate, as were cognitive status and manual dexterity. The Mini-Mental Status Exam (Folstein et al., 1975) was used to screen for cognitive disorders. In addition, a test of hand function (Jepsen, 1969) was used to assess manual dexterity and to determine if problems with manual and finger dexterity might affect oral self-care. Although some variation was found on this test, problems were not serious enough to affect brushing abilities, or to require the use of assistive devices for brushes. Differences in manual dexterity did not influence oral hygiene and psychological outcomes in the experimental groups. Subjects in the nursing home study were randomly assigned to: 1) a self-monitoring condition, 2) an oral health promotion group with no self-monitoring, 3) a placebo group, and 4) a control condition with no interventions. After a six-week intervention, all subjects were re-examined by the dental hygienist and re-interviewed by the research assistant. Both of these project staff members were kept blind to the group assignment of participants. Six weeks later, and again six months later, a second follow-up was conducted with all participants. The greatest improvements were found in the self-monitoring condition; the least in the health education-only group. Most significant was the finding that **self-monitoring**

groups continued to show lower plaque scores, a higher frequency of home care behaviours and higher morale scores six months after the intervention than before the program began; the education-only groups had reverted to their pre-intervention levels on all variables.

In the second study (Price & Kiyak, 1981), focusing on Japanese-American and Caucasian elderly in the community, three of the four conditions tested in the nursing home were also tested in the senior centre; the placebo group was not included. In addition to a pre-intervention assessment, subjects were tested immediately after the intervention. The self-monitoring group again showed the greatest improvement in oral health (i.e., plaque scores), in self-reported oral and general health. Those in the oral health education group without self-monitoring did not differ from the control condition in their plaque scores following the intervention. While ethnic differences were observed in the degree of improvement in plaque scores and oral health knowledge (with Japanese American elders showing greater gains), both ethnic groups who used self-monitoring techniques reported significantly higher levels of general and oral health immediately after and six weeks after the intervention. These gains were also significantly greater than for the education-only conditions.

Because of the dramatic effects of these oral health interventions on psychological well-being, a third study was undertaken among nursing home residents who were mildly depressed or at risk for depression (Kiyak & Mulligan, 1987). The sense of worthlessness, loss of autonomy, and loss of health which are associated with depression may be aggravated in the nursing home environment where the individual often forfeits control over his/her lifespaces and activities. Research by Rodin and Langer (1977) has shown that elderly nursing home residents who are given control over their environment experience increased self-worth.

In this third study, we hypothesized that oral self-care should increase the depressed person's perception of autonomy and self-worth. This, coupled with self-monitoring in a group setting, was expected to reduce depressive symptoms and to improve self-esteem. Depressed elderly not on antidepressants were referred by the nursing home's director of nursing and assigned to one of three conditions: a self-monitoring oral health educational group or education-only group that each met once a week for six weeks, or a control group that was examined and interviewed only at baseline and at the termination of this project.

Despite a high attrition rate, both the self-monitoring and education-only groups experienced declines in plaque levels. The self-monitoring group experienced the greatest decline from their pre-intervention levels of plaque to the immediate post-intervention and even at the six week post-intervention assessment.

Self-reported health status also changed for the two intervention groups, but, as expected, remained stable for the control group. These results support the value of an oral health screening program combined with group discussion in improving the oral health status and overall sense of well-being among depressed elders.

Contrary to the hypothesis that enhanced oral health and a sense of increased control over one's health would effect improvements in morale and levels of depression in this population, no significant changes were found for the two intervention groups. However, the self-monitoring group did report slightly higher morale at the immediate post-intervention interview than they did initially. Nevertheless, these effects were slight and had little impact on pre-existing depression.

In the fourth health promotion study conducted by our research team (Kiyak and Grayston, 1989), we tested the feasibility of the self-monitoring approach on a large-scale basis. Because this was not an experimental intervention but a demonstration project, no control groups were utilized. The program consisted of six one-hour sessions held twice each week at 36 senior centres throughout the state of Washington. Baseline interviews and oral exams were conducted on 360 elders ranging in age from 60 to 97 (mean age = 73.4). Classes were conducted jointly by a health educator and hygienist; the topics covered were typical of our other health programs. Participants reflected the pattern of oral health status in U.S. adults over age 65; 40.2 per cent wore complete dentures while the remainder had only natural teeth or a combination of natural teeth and prostheses.

The demonstration project described above resulted in significant improvements in participants' oral health status and behaviours. Plaque levels were lower by 20 to 30 per cent in those with natural teeth or dentures, both at the immediate and 3-month post intervention assessments. The finding of continued improvement at 3 months attests to the benefits of a self-monitoring approach, as we found in the first two projects. There was a corresponding increase in self-reported brushing frequency, and in the number performing regular oral self-exams, from none at baseline to 34 per cent at 3 months post-intervention. Perceived oral health also improved during this period, possibly reflecting the greater sense of control and self-efficacy these elders experienced through their involvement in the program. Indeed, the finding that plaque scores were inversely correlated with perceived oral health at all assessments supports this conclusion.

In a recently completed study (Kiyak & Grayston, 1991), self-monitoring was again utilized. However, in order to test whether elderly persons would be more likely to participate in the program if told that the health topics would be broader than oral health alone, volunteers at senior centres were randomly assigned to groups that focused on oral health with some general health topics or groups that integrated oral health into broader topics such as cancer, arthritis, nutrition and drugs. While this strategy did not appear to increase the numbers of volunteers, both focused and integrated groups that used self-monitoring techniques showed consistently higher scores post-intervention than did non-self-monitoring groups. That is, regardless of the degree to which oral health was emphasized in the course, elders who used self-monitoring charts to track their oral hygiene and dietary patterns showed lower plaque scores and less gingival bleeding post-intervention than did those not monitoring their behaviour. Oral health attitudes and the perceived importance of oral and systemic health also improved in the self-monitoring groups, as did self-efficacy, or the conviction among these elders that they could control their health by the behaviours they performed. Given that these are important attributions for improving health status (Kiyak, 1992; Tedesco, Keffer & Davis, 1992), these findings provide even stronger evidence for the value of self-monitoring in any health promotion effort.

The latest in our series of oral health promotion studies has recently begun, with a focus on low income persons over age 60 who qualify as patients in the local health department clinics but who have used these services only on an emergency basis (Kiyak, 1991). Each experimental condition adds a new intervention, ranging from (1) education alone, (2) education and chlorhexidine, (3) education and chlorhexidine and semi-annual fluoride varnish applications, and (4) education and chlorhexidine and semi-annual fluoride varnish applications, and a semi-annual

prophylaxis. All education interventions consist of a single 2-hour session for small groups of participants, held at the health department semi-annually. The focus of these sessions is on maintaining whatever natural teeth remain and conducting self-exams to detect soft tissue lesions. This is fewer than what is covered in our 6-week program, but serves to reinforce the behaviour change issues covered by the hygienist and dentist.

SOME DO'S AND DON'TS FOR HEALTH PROMOTION WITH ELDERLY

A long-term intervention effort, such as the studies conducted by our research team, has the advantage of reiterating and reinforcing new information (which is valuable in light of normal age-related changes in learning and memory), and in terms of testing for long-term retention of newly acquired skills. However, the trade-off is a potential loss of subjects due to death, acute illness exacerbated by existing chronic conditions such as heart disease or diabetes, or disability due to a sudden stroke or accident resulting in a fractured hip. Attrition due to death and disability generally accounts for 10 to 25 per cent of subject loss in our long-term (6 months to one year) follow-ups.

It is important to consider the content and methods of presentation. In our earlier research the sessions were described as oral health education that would be appropriate for both edentulous and dentate elderly. While this may have appealed to a small proportion of elders in that setting who were concerned about their oral health (thereby producing a ceiling effect for improvement in some cases), many older people with even greater needs did not participate. The addition of other topics such as cancer education, blood pressure and dietary needs increased the number of volunteers somewhat above our previous numbers, but it appeared that the best recruitment tool was "the carrot strategy". That is, potential volunteers were told that the program would offer free dental exams (and emergency treatment if necessary), free blood pressure and cholesterol screenings, and free educational materials developed specifically for elders. In addition, a small stipend for each follow-up visit appeared to enhance both the recruitment and retention rates. Indeed, retention in studies without a stipend has been as low as 50 per cent, whereas in studies with a stipend the rate has been as high as 75 per cent (most drop-outs in these latter studies have been attributable to death and disability). Thus, it is important to recognize the value systems of one's audience in any health promotion effort, especially when working with older adults. In private practice, for example, a \$5 - \$10 reduction in fees could be given to those attending a series of OHI groups.

Another important methodological approach is to repeat information presented in previous sessions. This argues for a multi-session program, which in many cases is superior to a one-time only educational effort. This may also limit the number of topics covered, but it is based on sound cognitive retraining principles for the elderly, i.e. the need to reiterate new information and allow longer time for older people to learn and actively practise the new material, and to present the information in multiple modes (e.g. written handouts, oral presentation, demonstration and individual practice in the group). If it is necessary to limit the educational program to a single session, the material should not be condensed but instead reduced to just one or two topics (e.g. new techniques of home care, role of fluoride, dentist, hygienist).

Even with these special considerations in planning appropriate oral health promotion efforts for older people, it is impossible

to eliminate totally potential problems that may arise. As stated earlier, volunteer participants often have better oral health and higher socioeconomic status than non-participants. This creates a situation of "preaching to the choir", i.e. people who have had a history of relatively good dental care and are motivated to maintain their oral health by participating in a planned intervention. In some ways this is an ideal population, since they already have a reasonable level of health that is to be promoted, rather than focusing on secondary or tertiary prevention. On the other hand, from an ethical perspective health providers have an obligation to provide some health promotion opportunities for elders with the worst oral health. This may require the co-operation of administrators of long-term care facilities and senior service programs to encourage all elderly in their settings to obtain a free health screening, including a thorough oral assessment and treatment or referral of acute conditions. Financial incentives such as a token remuneration (\$5 or \$10) can also attract the less motivated elderly. Nevertheless, it is also important to be realistic and recognize the fact that no incentive will be sufficient to encourage those who have no interest in maintaining or improving their oral health, or those who see no association between their oral conditions and quality of life.

Finally, it is critical to involve other professionals in any oral health promotion effort. In long-term care settings, the director of nursing services and charge nurses must be committed to the program and believe in its efficacy. This will increase the chances of greater co-operation on the part of nurse aides responsible for bringing elders to a health promotion program and, in the long run, assure that behavioural changes made during the life of that program will continue. Directors of community-based social services for older people (e.g. hot lunch programs, senior activity centres) are similarly crucial for the success of oral health promotion efforts in these settings. Visiting nurses or other health educators who visit these sites regularly should also be made aware and, if possible, become involved in conducting oral health promotion programs. This may help to encourage collaboration and avoid conflict with other health promotion efforts. Because of the growing awareness of health promotion for older adults, it is not unusual to find several disjointed programs in many senior centres today. The inclusion of an oral health program will be unsuccessful unless it can be integrated with all or some of these other activities.

CONCLUSIONS

The increased number of people living to age 65 and beyond, and more importantly, the number retaining their natural teeth, albeit with extensive histories of decay and periodontal disease, make it imperative for dental professionals and health educators

to develop age-appropriate oral health promotion programs for this population.

It is hoped that these studies will serve as examples of what can be done with diverse populations of elderly, as well as limitations of oral health promotion efforts with older persons. ■

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Oral Health in Old Age — Practical Problems and Practical Solutions



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About 10 per cent of the Canadian population, or 2.5 million people, are over 65 years of age, and it is estimated that they will represent nearly 12 per cent of the population by the year 2001, and 17 per cent in 2021. There are substantially more women than men in the older age groups, and the imbalance becomes more pronounced with advancing age. The number of people over 80 years is increasing even faster than other age groups, with expectations that they will represent about a quarter of the elderly population by the turn of the century.

The vast majority (90 per cent) of people over 65 years live independently, either alone or with others, while the remainder live in long-term care (LTC) facilities. Actually, at present, about a third of the population over 85 years of age avail of this sheltered care. LTC facilities in British Columbia, for example, provide three levels of care — personal, intermediate, and extended — corresponding to the extent of assistance given to the residents. Most (53 per cent) of the residents receive intermediate care, a third (34 per cent) receive extended or constant medical supervision, and 13 per cent receive personal or minimal care.

Those who are disabled and institutionalized make very little use of dental services, and it appears that they, in particular, offer a challenge that few dentists have accepted. The oral health care provided by dentists to residents of LTC facilities is predominantly an emergency service. Apparently dentists and dental hygienists feel ill-prepared to address the needs of a disabled population, and they do not consider visits to an institution as part of their professional responsibility.

There have been many reports of the poor health and apparent disinterest in dental treatment among older age groups. The reports suggest also that old people are unaware of their problems, and show no interest in attending the dentist for routine examinations. Income, education, age, gender, health, and previous treatment experi-

ences, have all been implicated in the neglect. There is general agreement that elders will seek and use dental services like younger adults, if they have natural teeth and if they are aware of a dental problem. The usual reason offered by elderly people for not attending the dentist is that they have no reason to bother, and apparently this excuse is offered even by those who are aware of a problem, and particularly if it relates to a denture.

It is quite plausible, therefore, that many people accept discomfort in the mouth as an inevitable consequence of aging, and that institutionalized elders, who are predominantly edentulous, avoid dentists because of the widespread belief that their problems cannot be treated.

What is appropriate treatment for an elderly disabled person?

With little doubt there is a high prevalence of inadequate dentures, inflammatory mucosal disorders, denture-related pathoses, and poor oral hygiene, among residents of LTC facilities. Mucosal inflammation or denture stomatitis, associated with a dirty and ill-fitting denture, is the most common observation in the mouths of elders who use dentures.

Despite the benign status of the lesions commonly encountered in older mouths, they may interfere with eating, speaking, facial appearance, and general comfort; and they can influence the mental and physical health of a resident within the socially demanding environment of an institution. It is very important to keep this fact in mind when deciding on the appropriate treatment for what may seem like a relatively trivial oral problem, compared with an apparently overwhelming disability, in an elderly patient. Consequently, the major objectives of any dental service to disabled and institutionalized people are to correct denture defects, control caries, and improve oral hygiene, within the context of a general plan to control disease, restore function, and maintain health.

Inflammation of the alveolar mucosa is caused usually by unhygienic or structurally defective dentures. Denture defects are corrected quite simply and effectively in this age group by relining and repairing the denture base, and subsequently the mucosal inflammation can be resolved by improving oral and denture hygiene. New dentures are accepted with difficulty by older patients, so it is advisable to retain and modify the existing denture where possible.

The management of root caries remains controversial, but there is mounting evidence to support the use of a daily application of a 0.4 per cent stannous fluoride gel to

**CANADIAN
DENTAL
HYGIENISTS'
ASSOCIATION**

CODE OF ETHICS

June, 1992



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Preamble:

The practice of dental hygiene can generally be defined as a helping relationship in which the dental hygienist assists the client, and society in general, in achieving and maintaining optimal oral health. Dental hygiene practitioners, educators, administrators, and researchers have as their ultimate goal, the maintenance and improvement of dental hygiene practice. Dental Hygiene has an identified body of knowledge and a distinctive expertise. The relationship between dentistry and dental hygiene should be one of professional collaboration in the provision of oral health care.

The Code of Ethics sets down the values and standards of the profession of dental hygiene. The **values** express the broad ideals of dental hygiene while the standards are moral obligations that have their basis in the dental hygiene values. Standards provide more specific direction for conduct than do values, and specify what a value requires under particular circumstances. The Code of Ethics functions as a means to educate the public about the profession's aspirations, ethical values and standards; and, disciplinary governance of the profession's behaviour.

The purpose of the Code of Ethics is to:

1. Define and clarify ethical principles. At the beginning of each article, the ethical principles to which the values and standards apply are defined.
2. Identify the basic moral commitments of dental hygienists. These basic moral obligations are described under the standards in each article.
3. Serve as a source for education and reflection. It is the intent that this Code of Ethics will be used in Ethics courses to educate dental hygiene students to apply it to ethical dilemmas that occur during the education process, and to the work setting post graduation. For dental hygienists who are currently practising dental hygiene it should serve as a guideline in resolving ethical dilemmas encountered in the employment setting.

4. Serve as a basis for self-evaluation and peer review. Dental hygienists should be able to determine if they practise dental hygiene in accordance with the values and standards outlined in this Code through self-assessment. When hygienists are participating in a peer review program, they should be able to determine if the hygienist being reviewed meets the values and standards of this Code.

Ethical Problems

Ethical problems faced by practising dental hygienists tend to fall into the categories of ethical violations, ethical dilemmas and ethical distress.

Ethical violations occur when dental hygienists fail to meet or neglect their moral obligations to their clients, e.g., a dental hygienist who does not provide competent care because of personal inconvenience has failed the client ethically.

Ethical dilemmas arise when ethical reasons both for and against a particular course of action are present and one option must be selected. There is usually a conflict among two or more ethical principles—e.g., a patient with a hip prosthesis may refuse to be pre-medicated prior to receiving invasive dental treatment. In this case, the principle of “respect for persons” conflicts with the principle of “beneficence”.

Ethical distress occurs when dental hygienists experience the imposition of practices that provoke feeling of guilt, concern or distaste. For example, a dental hygienist may be expected by the employer to complete dental hygiene treatment with insufficient time to render quality care, or provide an acceptable level of infection control.

This Code provides clear direction for avoiding ethical violations. When a course of direction is mandated by the Code, and there exists no opposing ethical principle, ethical conduct requires that course of action.

In the case of ethical dilemmas and ethical distress, the Code cannot always provide clear direction. It is important to note that the resolution of any dilemma often depends on the specific circumstances of the case in question, and no particular resolutions may be totally satisfactory to all parties involved. Resolution may also depend upon which opposing ethical principle is considered to be most important, a matter about which reasonable people may disagree.

The Code can serve as a guide in helping dental hygienists consider their responsibilities in the case of ethical distress. Inevitably dental hygienists must reconcile their actions with their consciences in caring for clients.

Some problems are perceived to be “ethical” in nature, when in fact they are problems arising from poor communications among members of the dental profession, and/or with their clientele. It is important to determine if the dilemma is truly an “ethical” dilemma.

It is hoped that this Code will provide guidance to dental hygienists facing ethical problems, and that consideration and reflection of the Code will lead to better decision-making when ethical problems are encountered.

Section I:

Responsibilities to the Client

The dental hygienist's primary responsibility is to the client.

The dental hygienist has a commitment to the welfare of clients in all practice settings, including but not limited to private practice, institutions, research, education, administration and community health.

Principle I: Respect for Persons

The ethical principle of Respect for Persons sees all human beings as possessing unconditional intrinsic value and having a capacity for rational choice.

Values:

A dental hygienist has an obligation to treat clients with respect for their individual needs and values.

Standards:

- 1(a). Clients seeking dental hygiene care will receive quality care regardless of religion, ethnic origin, social status, sex, sexual orientation, age and health status.
- 1(b). When a client's autonomy is compromised due to psychiatric disorders, age (e.g., a young child) or medical condition (e.g., paralysis), the dental hygienist will facilitate the participation of family members or care givers in the oral health care of the client.
- 1(c). When a client's autonomy is compromised due to illness (e.g., Alzheimer's disease) or other factors, the dental hygienist has an obligation to value autonomy in such clients by providing them with opportunities for choices within the client's capacities, to enhance their autonomy.

Principle 2: Respect for Persons (Confidentiality)

In order to show proper respect for the client's autonomy and privacy, the dental hygienist must uphold the confidentiality of the professional-client relationship. Violations of confidentiality could make clients unwilling to disclose sensitive information that could be detrimental to the health and safety of both the client and the health care team.

Values:

The dental hygienist has an obligation to hold confidential all information regarding a client learned in the health care setting.

Standards:

- 2(a). Generally speaking, it is up to the clients to determine who shall be told of their condition and in what detail.
- 2(b). In describing professional confidentiality to a client, its boundaries should be revealed:
 - i) Competent care requires that other members of a team of health personnel have access to or be provided with the relevant details of a client's condition.
 - ii) In addition, discussions of the client's care may be required for the purposes of teaching, research or quality assurance. In these cases special care must be taken to protect the client's anonymity.

Whenever possible, the clients should be informed of these necessities prior to the onset of care.

- 2(c). An affirmative duty exists to institute and maintain practices that protect client confidentiality, for example, by limiting access to records.

Principle 3: Veracity and Informed Consent

Veracity is the ethical principle of honesty which provides meaningful communication in any moral relationship between two or more people.

Informed consent (derived from Respect to Persons): critical elements involved in the process of obtaining and proffering informed consent include disclosure, (i.e. the act of revealing pertinent information) voluntariness, (i.e. information given of one's free will) cognitive information-processing steps, (i.e. the ability to understand the information that is being given) and subject competence (i.e. the clinician's competence regarding subject matter). Health care providers have both a moral and legal obligation to make it possible for clients to decide important matters that affect their health.

Values:

Based upon respect for clients and regard for their right to control their own care, dental hygienists must respect the right of choice held by clients.

Standards:

- 3(a). The competent client's consent is an essential precondition to the provision of oral health care. Dental hygienists have a responsibility to inform clients of the dental hygiene care available to them, and to obtain informed consent from the client prior to rendering any treatment.
- 3(b). Informed consent is the process by which a client becomes an active participant in care. All clients should be aided in becoming active participants in their care to the maximum extent that circumstances permit. Children who may be legally incompetent to consent should still be informed in accordance with the child's state of development and capacity to understand and involved in their oral health care. Parents and/or guardians must be fully informed.
- 3(c). Force, coercion or manipulative tactics must not be employed in the obtaining of consent. It is unethical for dental hygienists to advocate a particular treatment plan in the absence of the presentation of alternative treatment plans. The client must be allowed to make an informed choice between treatment plan options as well as the option of no treatment.

- 3(d). Any information being given to a client must be done in a truthful, understandable and sensitive way. It must precede with an awareness of the individual client's needs, interests and values. The information must be supplied in a manner consistent with the client's ability to understand the information being given.
- 3(e). Dental hygienists should respond freely to their clients' requests for information and explanation when in possession of the knowledge to respond accurately. When the questions of the client are beyond the scope of the dental hygienist, the client should be informed of that fact and be referred to a more appropriate health care practitioner for a response.
- 3(f). Dental hygienists should inform their licensing authority when an injury, dependency, infection, condition or any other serious incapacity has immediately affected, or may affect over time, their continuing ability to practise safely and competently.

Principle 4: Beneficence and Quality Assurance

The ethical principle of beneficence is the doing of good, and the active promotion of good, kindness and charity.

Quality assurance is the assessment or measurement of quality of care and the implementation of any necessary changes to either maintain or improve the quality of care.

Values:

The dental hygienist is obligated to provide competent care as currently described in The Clinical Practice Standards for Canadian Dental Hygienists in Canada.

Standards:

- 4(a). The dental hygienist actively promotes educational and clinical procedures to improve the oral health status of clients.
- 4(b). The dental hygienist participates in the assessment, planning, implementation and evaluation of comprehensive programs of oral health care. The scope of a dental hygienist's responsibility

should be based on education, and experience, as well as legal considerations of licensure and registration.

- 4(c). Dental hygienists accepting professional employment must determine if the conditions will permit provision of care consistent with the Practice Standards for Canadian Dental Hygienists, and the values and standards of the Code of Ethics for Dental Hygienists. Prospective employers should be informed of the Practice Standards and the Code so that realistic and ethical expectations may be established at the beginning of the employer/employee relationship.
- 4(d). Administrators (e.g., Public Health, Schools of Dental Hygiene) have an ethical responsibility to ensure the competencies of personnel and the welfare of clients.
- 4(e). The dental hygiene student-client relationship must be in keeping with the ethical dental hygiene practice and maintaining the dignity of the client. Dental hygiene educators are obligated to ensure that dental hygiene students are knowledgeable in, and comply with, the provisions of the Code.
- 4(f). Research is necessary for the development of the dental hygiene body of knowledge. Dental hygienists should be knowledgeable of the advances in research so that established results may be incorporated into practice. Dental hygienists are encouraged to engage in, or to assist and encourage, research designed to enhance the health and welfare of clients.

Dental hygiene research must conform to ethical dental hygiene and research practices.

- 4(g). The dental hygienist accepts responsibility for working with provincial and national dental hygiene associations to secure quality care for clients.
- 4(h). Dental hygienists should engage in continuing education and in the advancement of skills relevant to the practice setting.

Principle 5: Justice

The ethical principle of justice refers to “what is deserved.” People have been treated justly when they have been given what is due or owed, what they deserve, or can legitimately claim.

Values

The dental hygienist, as a member of the dental profession, is obligated to take steps to ensure that the client receives competent ethical care.

Standards

- 5(a). Client care should represent a collaborative effort, drawing on the expertise of dental hygiene, dentistry and other health professions when appropriate. Recognizing personal and/or professional limitations, the dental hygienist refers clients who require more complex care or care outside the scope of dental hygiene care.
- 5(b). The first consideration of the dental hygienist who suspects incompetence or unethical conduct by members of the dental profession should be the welfare of present clients and/or potential harm to future clients. The following should also be considered.
 - i) The dental hygienist is obligated to confirm the facts of the situation to decide on an appropriate course of action.
 - ii) Institutional mechanisms (e.g., educational programs, public health) for reporting incidents or risks of incompetent or unethical care should be followed.
 - iii) Incidents involving unethical care that cannot be resolved within the practice setting should be reported to the appropriate licensing authority.
 - iv) The dental hygienist who attempts to protect clients threatened by incompetent or unethical conduct should not be placed in jeopardy (e.g., loss of employment). Colleagues and professional organizations are morally obligated to support dental hygienists who fulfil their ethical obligations under the Code.

Section II: Responsibilities to the Profession of Dental Hygiene

Values

The dental hygienist is obligated to uphold the ethics of the dental hygiene profession before colleagues and others.

Standards

- 6(a). Dental hygienists serving on committees concerned with dental health care or research should see their role as including representation of dental hygiene's professional ethics.
- 6(b). Dental hygienists should become involved in public issues which relate to oral health care. Involvement in civic activities allows the opportunity to promote dental hygiene care and to fulfil the duties of a citizen.

Section III:

Responsibilities of C.D.H.A. and provincial associations

Values

The Canadian Dental Hygienists' Association recognizes a responsibility to clarify, secure and sustain ethical dental hygiene practice. The fulfilment of these tasks requires that professional organizations remain responsive to the rights, needs and legitimate interests of clients and dental hygienists.

Standards.

- 7(a). Sustained communication and co-operation between the Canadian Dental Hygienists' Association, professional associations and other related associations such as the Canadian Dental Association is an essential step towards securing ethical dental hygiene practice.
- 7(b). Provincial and national dental hygiene associations must accept responsibility for assuring quality dental hygiene care for clients.
- 7(c). Professional dental hygiene associations have a role in representing dental hygiene interests and perspectives before non-dental hygiene bodies, including but not limited to legislatures, employers and the professional organizations of other health disciplines and the public media of communication.
- 7(d). Professional dental hygiene associations should provide and encourage organizational structures that facilitate ethical dental hygiene practice.

Changing circumstances may call for reconsideration of this Code. Supplementation of the Code may be necessary to address special situations. Professional associations should consider the ethics of dental hygiene on a regular and continual basis and be prepared to provide assistance to those concerned with its implementation.

Education in the ethical aspects of dental hygiene should be available to dental hygienists throughout their careers. Dental hygiene associations should actively support or develop structures designated toward this end.

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provide an antimicrobial effect on the organisms associated with both caries and gingivitis.

Presumably people who retain natural teeth into old age have, or at least had, an effective method of controlling oral disease, and a resistance to oral pathogens. Unfortunately it seems that the effectiveness of disease control can collapse when general health deteriorates and personal hygiene is neglected. The difficulty of managing oral hygiene among disabled elderly people has not been resolved. At least one report suggests that older adults respond favourably to a self-monitoring technique to improve oral hygiene, but it is not clear that such a program can be maintained for a prolonged period.

Dental hygienists have been employed to work in LTC facilities but, unfortunately, they seem to prefer working in the familiar setting of a conventional private practice. A specially trained "geriatric dental aide" has been proposed also as an economical and practical approach to support the oral hygiene needs of older people. This approach was taken in a large LTC facility in Vancouver, reportedly with success, and recent reports of a program, using teams of dentists, dental hygienists, and assistants, in Toronto are encouraging to those who believe that teeth and dentures should not be a source of discomfort or embarrassment in old age. ■

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The Faculty of Dentistry offers a Baccalaureate Degree Completion Programme in Dental Hygiene leading to a B.D.Sc. degree. The programme may be undertaken either on a full time (2 years) or part time basis (up to five years to complete).

Closing date for receipt of fully documented applications is December 15 for admission for the following September.

Further information and application forms may be obtained from:



The Secretary, Division of Periodontics
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The University of British Columbia
2199 Wesbrook Mall
Vancouver, B.C. V6T 1Z3
Telephone: (604) 822-5895
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IMPORTANT NOTICE TO DENTAL HYGIENISTS OUTSIDE B.C.

The College of Dental Surgeons of B.C. has developed a Waiver Program (exemption from all Board Examinations) for dental hygienists applying for Registration and Licensure for the period January 1, 1992 to December 31, 1994. Most dental hygienists will qualify if they are:

- 1) graduates of a dental program accredited by either the Canadian Dental Association or the American Dental Association;
- 2) not considered to be an unsuccessful candidate in their most recent Board Examination attempt in any province or state;
- 3) can provide a letter of good standing from the licensing jurisdiction in which they are currently, or last licensed and/or are graduates within the most previous year.

The College will also review each applicant's practising history prior to making a determination as to eligibility.

For more information, and to obtain application packages, please contact the Registrar, Dr. B. Rocky, 500-1765 West 8th Avenue, Vancouver, BC V6J 5C6: (604) 736-3621 or fax: (604) 734-9448.

Effects of Drug Therapy on Oral Health of Older Adults



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With an ever increasing segment of the population over sixty-five, the knowledgeable promotion of optimal geriatric drug therapy has become an exciting but complex area for all health professionals. By understanding health risks and potential drug therapy problems that may occur in the older individual, dental hygienists can help to identify those high-risk older adults that may require special attention in dental treatment.

Medication Considerations in Older Individuals

1. Demographic information

- within 50 years, 27% of the population will be over 65 years of age
- 70 % of individuals over 65 use one or more drugs, 55% use 3 to 5 drugs, and 22% use 6 or more drugs
- drugs most commonly prescribed to B.C. community elderly in 1990 include analgesics, asthma inhalers, anti-ulcer drugs, hypnotics, diuretics, digoxin, antihypertensives, potassium supplements, hypoglycemics and thyroid replacements
- most common non-prescription drugs include vitamins and minerals, analgesics, antacids, laxatives, cough and cold, and sleep aids

2. Physiological changes with aging

- the aging process involves a change in body composition, organ function, and receptor sensitivity resulting in less predictable drug response
- drug absorption is not usually clinically affected although motility slows down
- drug distribution changes significantly as there is an increase in body fat to lean body mass ratio — fat soluble drugs such as tricyclic antidepressants may have a prolonged duration of action in the elderly
- reduced function of kidney and liver results in a longer duration of action for such drugs as digoxin and cimetidine "start low and go slow" is recommended when initiating any drug for older individuals

3. Effects of drugs

- must carefully consider both benefits and risks of all medications
- some drugs have rapid onset, other drugs require several weeks to produce maximum benefits
- each individual will have a unique response to a drug, based on multiple factors such as age, weight, sex, genetics, and general health
- the aim of drug therapy is to achieve a concentration of drug within the therapeutic range
- side effects of drugs are predictable and preventable, and represent 70-80% of drug reactions
- adverse reactions are unpredictable and unavoidable, and represent 20-30% of drug reactions

4. Drug compliance

- 30% of prescriptions are misused in a manner that poses a serious threat to the patient's health
- 60% of patients cannot identify their medicines
- 40% of patients receive drugs prescribed by two or more doctors
- 12% of patients take other people's drugs
- 3-30% of hospital admissions are due to incorrect use of drugs by patients at home
- only 54% of authorized repeat prescriptions are actually refilled

5. Importance of complete medical history

- use of a structured questionnaire helps to stimulate patient recall during personal interview
- explain that the information is needed so that medications will not be prescribed that adversely interact with those already being taken or will not make the intended procedure unsafe
- ask if there are any medications that they cannot take because of a previous reaction
- during interview be sensitive to possible drug non compliance

Adverse Drug Reactions which affect Oral Health:

1. Xerostomia symptoms —

- associated with decrease or absence of salivary secretion
- generalized burning or soreness in the mouth
- difficulties with eating dry foods, speech, mastication and swallowing
- taste impairment
- denture wearers may have problems with tongue sticking to the palate, denture retention, and denture sores
- increased susceptibility to caries and periodontal disease due to absence of normal antibacterial enzymes
- examination of the tongue and mouth may reveal fissuring, absence of salivary pooling, angular stomatitis, chapped lips, oral ulcers, candidiasis, and caries

DRUGS WHICH CAN CAUSE XEROSTOMIA

Type of Drug	Examples
anticholinergics	propantheline, Donnatal, Librax
antihistamines	diphenhydramine, dimenhydrinate, chlorpheniramine
antipsychotics	thioridazine, chlorpromazine, fluphenazine, haloperidol
antidepressants	amitriptyline, imipramine, lithium carbonate
antiparkinsons	benztropine, methyl dopa, guanethidine
anxiety	hydroxyzine, diazepam
antihypertensives	methyl dopa, reserpine, guanethidine
diuretics	furosemide, hydrochlorothiazide

- some foods may taste metallic or have garlic odour
- systemic malodour may be due to diseases of bronchi, lungs, or internal haemorrhage

general treatment measures

- dysfunction usually self-limited, recovery may take months
- dietary supplementation with zinc sulfate
- administration of cholinergic agonists (eg, bethanechol)
- sodium bicarbonate mouth rinses
- chewing gum or ice
- try stronger seasonings eg. italian, mexican
- marinate food in wine, beer, soy sauce, BBQ sauce

general treatment measures

- requires a multi-faceted approach
- a reduction in drug dosage or use of alternate therapy might be indicated
- avoid dry and bulky foods, spicy or acidic foods, alcoholic beverages, carbonated beverages, and tobacco
- drink lots of fluid (unless medically contraindicated)
- humidification of inspired air may be helpful
- dietary analysis and counselling are mandatory in view of high risk of dental caries
- sugarless candy or chewing gum may stimulate salivation
- artificial saliva (Salivart, Xero-Lube) or pilocarpine drops orally or Sialor may stimulate saliva
- lubricants such as Oragel and glycerin swabs may give relief.
- good personal oral hygiene, frequent normal saline rinses, and Biotene may be helpful

2. Changes in taste and smell sensation symptoms

- elderly do not detect sweet and salty tastes well and may consume excessive sugar and salt

- drink nutritional supplement cold, through a straw
- for loss of smell, can add commercially available simulated odours
- good oral hygiene is important

3. Anorexia

Malnutrition is a common problem in the elderly, especially the institutionalized patient. Vitamin deficiencies are often apparent in the oral cavity, with symptoms such as cheilosis, tongue atrophy, glossitis, and bleeding gums. Patients receiving digoxin for heart failure or atrial arrhythmias, may develop nausea, vomiting and anorexia with toxic blood levels of digoxin. Fluoxetine, theophylline, and some cancer drugs may also cause nausea and poor appetite. Weight loss is considered significant with a 1-2% loss in body weight in one week, 5% in one month, 7.5% in three months, or 10% over six months.

4. Candidiasis symptoms

- acute pseudomembranous candidiasis "thrush"
- acute atrophic candidiasis "antibiotic sore mouth"

DRUGS WHICH MAY CAUSE ALTERED TASTE AND SMELL

Category	Definite	Possible
Loss of taste acuity "ageusia"	captopril, penicillamine	ampicillin, azathioprin, carbamazepine, clofibrate, doxepin, phenylbutazone, ASA phenytoin, baclofen sulfasalazine, local anesthetics
Distorted taste "dysgeusia"	captopril, flurazepam, lithium carbonate, DMSO	ASA, diazoxide, disulfiram, lincomycin, metronidazole
Unusual taste "phantogeusia"	levodopa (Sinemet, Prolopa), metformin	allopurinol, vit D, colchicine, dipyridamole, ethambutol, gold salts, tetracycline
Altered smell	topical cocaine, topical nasal vasoconstrictors (Neo-Synephrine), neomycin	

- chronic hyperplastic candidiasis "candida leukoplakia"
- chronic atrophic candidiasis "denture stomatitis"

general treatment measures

- if possible, eliminate medications contributing to condition
- use topical antifungals (Nystatin)-available as a rinse, cream, and sugar-free vaginal tablets
- use liquid products if patient's mouth is extremely dry
- drug binds and then damages fungal cell membrane
- requires applications four times daily for two weeks
- ketoconazole (Nizoral), clotrimazole (Canesten), miconazole (Micatin) available as creams, vaginal tablets
- chlorhexidine mouth rinses, has both an antibacterial and antifungal effect, and there may be advantages to its use in dentate patients due to its effect on cariogenic bacteria

5. Gingivitis

Phenytoin frequently results in fibrous hyperplasia of the gingivae, which may eventually cover the teeth, interfere with mastication, and be esthetically unacceptable. Good oral hygiene can normally control the condition, although surgery may be required occasionally.

6. Dysphagia

symptoms

- difficult or disordered swallowing, which may be due to normal aging, stroke, Parkinson's disease, dementia, drugs causing dry mouth, or antipsychotic medications
- as oral phase is voluntary, drugs causing confusion may interfere with swallowing
- antipsychotic drugs
 - early treatment — laryngeal dystonia (paralysis)
 - chronic treatment — tardive dyskinesia — severe facial grimacing, swallowing problems

general treatment measures

- withdraw offending medication
- substitute a drug less likely to cause dysphagia
- tablets often need to be crushed and placed in pureed food
- liquid medications often need to be thickened
- management may require assistance of speech pathologist

MEDICATIONS IMPLICATED IN DRUG-INDUCED ESOPHAGEAL INJURY

reduce lower esophageal sphincter pressure

acidic in solution

prostaglandin inhibition
wax-matrix SR potassium

miscellaneous
diuretics

progesterone, anticholinergics, calcium channel blocking agents, ethanol, morphine, meperidine, theophylline, caffeine

doxycycline, ascorbic acid, ferrous sulphate, tetracycline, minocycline

ASA, indomethacin, ibuprofen

Slow-K

quinidine, theophylline

furosemide, hydrochlorothiazide

7. Drug-induced esophageal injury

symptoms

- difficulty swallowing, retrosternal chest pain

general treatment measures

- withdraw medication and symptoms should resolve within 7 to 10 days
- antacids and anti-ulcer drugs such as cimetidine or ranitidine may be helpful
- drink a sip of fluid prior to drug administration, followed by additional fluid
- patients should remain upright for 20-30 minutes following administration of medications

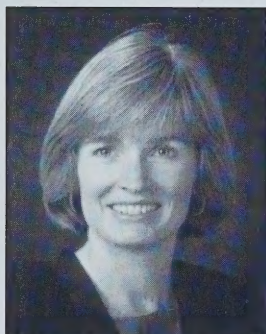
Conclusion

In summary, it is important for the dental hygiene profession to understand the drug-related challenges in geriatric medicine, and as members of the health care team, ensure that the risks associated with drug therapy are kept to a minimum. For a variety of reasons, the older adult is at an increased risk of adverse drug reactions, drug interactions, and poor compliance with prescribed therapy. By maintaining a communication link with the dentist, physician and pharmacist, dental hygienists can facilitate optimal drug therapy in the elderly. ■

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Dental Implantology and the Older Adult Implications for oral hygiene maintenance



by
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Introduction

In the 1990's dental hygienists will increasingly encounter patient groups who require special consideration for their oral hygiene care. Older adults who are fully or partially edentulous and restored with dental implants are one such group. There is growing evidence that this treatment alternative is enriching the quality of patient care to older patients. Screening methods for choosing the ideal implant patient must take into account state of oral health and medical well being. This paper will focus on certain aspects of the patient profile for dental implant treatment that may affect the patient's oral hygiene maintenance. The particular areas to be discussed will include medications, dietary habits, bone health, and physical impairments.

Dental Implantology

Implantology is an exciting and viable treatment option to restore patient's function, aesthetics and, hence, quality of life. Dental implant systems have been recognized and utilized for more than 25 years and during this time have met with much resistance and controversy from both dental clinicians and patients. A prominent Swedish scientist, Professor Per-Ingvar Branemark, and his original research on titanium and bone interface, brought dental implantology to "centre court" and is now recognized and accepted as a restorative dental treatment.¹

Following the discovery of the intimate interaction between titanium and bone, Professor Branemark coined the term "osseointegration". Osseointegration is defined as the structural and functional connection between ordered living bone and the surface of a loading carrying implant.¹ Six factors are critical to the success of dental implant treatment. The six factors include material chosen, design of fixtures, application of the system, surgical technique, prosthodontic technique, and patient factors.²

Patient Profile

The patient who is fully edentulous and many who are partially edentulous (less than 20 remaining teeth) are in an age category that requires the dental clinician to conscientiously gather a detailed medical, dental, and dialogue history before treatment commences. The dialogue history should include details of the patient's commentary that may give cues/clues to the thorough understanding of the patient's chief complaint and, hence, treatment expectations. A detailed history taking may assist the clinician in the recognition of any of the following conditions that may affect the dental implant patient and, hence, oral hygiene maintenance.

Medications:

Approximately thirty per cent of all medications, both prescription and non-prescription, are consumed by the elderly.³ Forty-one per cent of the elderly over 60 years of age are taking regular medication.³

Xerostomia or "dry-mouth syndrome" has a multifaceted etiology; however, drug-induced xerostomia is a common cause as it is known that over 400 drugs induce its onset. Xerostomia contributes extensively to tissue fragility, sensitivity, ulcerative oral lesions and plaque retention. Table 1 summarizes the classifications of drugs that are often associated with inducing xerostomia (Table adapted from Felder, et al, Special Care in Dentistry, Table 2, 1988⁴).

Temporary relief may be possible through the use of saliva substitutes. Other suggestions for relief from xerostomia include: 1) sialogogue agents (i.e. sugar free gum/lozenges), 2) dietary control (i.e. maintain high intake of fluids/reduce alcohol and caffeine beverages), 3) swabbing lips and oral mucosa with petroleum jelly, and 4) maintaining high air humidity utilizing humidifiers if necessary.

Dietary Habits:

Further research is needed to adequately answer the question of harmony between diet, occlusal load and implant fixtures. Occlusal forces/load are vitally important to the success of dental implants. Many edentulous patients have been consuming modified diets, which mainly includes soft foods due to compromised chewing ability with their dentures. A secure "bite" into an apple is often used as a promotion of the dental stability gained from having dental implants. It is suggested that for optional reconditioning of the bone that the patients be counselled on their dietary practices so to gradually reintroduce hard coarse foods into their diets.⁵

TABLE 1. Classifications of Drugs capable of causing xerostomia

Anticholinergics	Antineoplastics
Antihypertensives	Antispasmodics
Antihistamines	Sympathomimetics
Antipsychotics	Antidepressants
Anorectics	Antianxiety agents
Narcotics	Muscle relaxants
Anticonvulsants	Diuretics
Antiparkinsonian	Antiemetics

Bone Health:

Osteoporosis is a disease condition that could directly affect the successful osseointegration of dental implant fixtures.⁵ Masters points out that osteoporosis appears to be on the rise and it has been shown to affect bone volume, ratio of mineralized to non-mineralized collagen, and basic "strength" of the bone. It is possible that in some patients, osteoporosis may be dormant when the implant fixtures are inserted but later could become active, producing a negative effect on the foundation of the bone implant interface.⁶ With this consideration, screening for osteoporosis is an important factor in patient selection and implantology success. Some of the signalling factors of osteoporosis are a history of skeletal fractures, postural defects, flaccid musculature and minimum physical exercise. If one or more of these factors are noted while documenting the medical and dialogue history, the dental clinician would be advised to seek further examination for the patient from an internist or endocrinologist.⁶

Physical Impairments:

Arthritis is a physical condition that has a high incidence of onset between the ages of 20 and 70 which may adversely affect a patient's capabilities for optimal oral hygiene care. Osteoarthritis is most prevalent in women over the age of 60. The most common sites affected are the weight-bearing joints (such as hips, knees and vertebrae) and as such their capability for performing oral care is often not adversely affected. Rheumatoid arthritis (adult onset) inflicts females more often than males and is clinically evident in the third or fourth decade of life.⁷ Rheumatoid arthritis commonly affects the fingers, hands and knees first so it can be anticipated that this patient may have great difficulty in performing many oral hygiene practices.

Home care protocols for arthritic patients could be adapted to include enlarged toothbrush handles, extended handles for toothbrushes, and electric toothbrushes. If plaque control is problematic, intervals of swabbing with

chlorhexidine or antibacterial rinses may be considered. It may be necessary for arthritic patients to obtain assistance from a spouse or care giver to adequately clean the implant fixtures.

Hearing impairment is a common disabling condition in the North American population. The number of hearing impaired persons increases as one's age increases so subsequently, communication with this group may require special attention. Special considerations for communicating with the hearing impaired older adult, includes the following:

- (1) limiting "background" noise interference
- (2) speaking without a dental mask whenever possible
- (3) speaking while directly facing the patient
- (4) utilizing visual aids to reinforce instructions
- (5) providing written instructions for home reference⁹

Visual impairment, as hearing impairment, increases in prevalence past the age of 40. DeBiase outlines that light-to-dark perception is affected and suggests that patients be instructed to perform oral home care procedures before a well-lighted mirror.⁸ Written materials could be printed in bold-sized print. Before performing any oral hygiene instructions and/or demonstrations, ask that patients put on their eye glasses. Patients with visual impairment will rely heavily, if not solely, on the "feel" rather than "sight" of using oral hygiene devices for plaque removal. It is critical that these patients thoroughly understand the "anatomy" of what they are attempting to clean and be given numerous "hands-on" demonstrations, positive reinforcement and frequent opportunities to ask questions and practice the skills in the dental office.

In summary, one can see some of the medical complexities to consider with the implant patient. The extent of the oral hygiene maintenance required can be very overwhelming for many patients, particularly for the fully edentulous cases. The newly restored, fully edentulous patient may have been using very few home care aids in previous years so the many suggested aids should be carefully selected and introduced. Bearing in mind the patient profile, a discussion of available oral hygiene aids will follow.

Home care protocol/home care aids available

The following discussion will detail the numerous home care devices available to the patient to assist in their achievement of optimal oral hygiene maintenance.

A soft sulcular toothbrush (two or three row design) is ideal for facial surfaces of the abutments and for any portion of the superstructure or the bridge structure. On full mandibular cases, lingual brushing with a regular toothbrush is not effective due to the limited access and angulation of most brushes.

In the category of specialty toothbrushes, the end-tufted toothbrush has an important role. End-tufted toothbrushes (flat or tapered) are useful on the facial surfaces of the abutments. They can also be bent to better access the lingual surfaces of the abutments. The handle is easily bent by placing it under hot water and applying gentle pressure the handle is bent to achieve the desired angle. A newly designed end-tufted brush is double headed with an angled head for improved access to lingual and facial areas. Numerous implant patients have shown favourable and effective utilization of this new specialty brush.

Interdental brushes with **nylon-coated** wire are available in full handled or traveller size. Many patients indicate a preference for the traveller size for convenience of multiple uses throughout the day. These brushes have been shown to be very effective in obtaining access to the implant fixtures, both from the lingual and facial aspects.

A variety of products are available for flossing the implants. Specialized implant floss has been developed. It is a pre-cut, nylon braided material that can be washed and re-used time and time again. A built in loop at one end of the floss facilitates the insertion of the floss around the implant fixture. Another flossing product is also manufactured in flattened, pre-cut units and resembles dental tape. One end of this pre-cut floss is stiffened for threading the floss between the implant fixtures.

Oral irrigators are recommended if the patient is experiencing difficulty in plaque removal. However a risk is involved and should be considered. It is speculated that the water spray could force bacteria inside the gingival cuff and rupture the mucosal seal, thus forcing possible bacteria into the bone level. This risk is minimized if the patient is instructed to project the water spray at a 90 degree angle to the implant fixtures and to use the lower power settings.

Numerous rotary toothbrushes are available such as those with rotating or pointed-rotating brush heads and have shown to be effective for certain individuals. They are suggested at the discretion of the dental hygienist.

Antimicrobial rinsing or chlorhexidine swabbing may be necessary at varying intervals to reduce bacterial levels. Due to the staining property of chlorhexidine, rinsing is not advised. The patient should be instructed to apply chlorhexidine to the inflamed area with a cotton tipped applicator.

Considering the variety oral hygiene aids available, clinicians should choose aids which are tailored to individual needs.

Conclusion

The older adults entering our dental offices are an exciting and motivated group of people with hopes of restoring their oral functioning abilities and hence, their quality of life. Patient satisfaction is extremely high which sets the stage for a very rewarding experience for

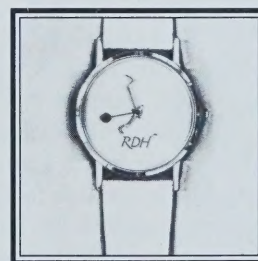
the dental team involved. Dental implantology brings intrigue, challenge, and satisfaction as a dental treatment alternative. ■

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Nutrition Concerns of and for Senior Canadians



by
*Claire Lightfoot, RDN, of
Campbell River, B.C.*

Nutrition Recommendations for Canadians¹ suggests that we should all be eating less fat, more carbohydrates and fibre, less sodium, and less alcohol and caffeine. These recommendations apply to senior Canadians too. However, there are many factors that influence how and even whether older adults can implement these suggestions. Physical, emotional, sociological and ethical issues often need to be considered in planning modifications to life-long eating habits. Some changes may be impractical or of little benefit. The same information may not be applicable or realistic for all people, especially seniors.

A recent forum on seniors and nutrition² sought to address two major questions: **What are the important issues related to seniors' knowledge about nutrition?** and **What barriers limit seniors' access to good nutrition?** These issues are closely linked.

Many seniors are willing and able to seek information. They debunk the myth that "you can't teach an old dog new tricks". These seniors may have generally enjoyed good health and want to maintain it as much as possible, or they may have had minor health concerns that inspire active changes. Mortality is a real, although possibly not conscious reality. Research supports the idea that the desire to learn does not lessen as individuals grow older, and this segment of the population proves just that.³ In their willingness to learn, however, they are vulnerable to misinformation too. Quackery and unproven remedies may be appealing. There may be confusion about what actually promotes good nutrition. Knowledge concerns include ensuring reliable, practical information that meets their needs and minimizes health risks. Food choices may be influenced by their desire to achieve or maintain good health. We can help by maximizing good appetites and the interest in nutrition, and facilitating changes through readable, understandable literature and information sessions.^{2,4}

Some seniors, however, may be resistant to changes. They may see no intrinsic reason to make food and health changes. In fact, they may have reasons, some uncon-

scious, for not making changes. Quality of life may be a bigger priority to them than longevity. Many may feel they have adequate knowledge already or may not want to admit they do not know, so may avoid or resist learning situations. Some may resent being told what to do, especially by younger people. Their concerns for their own nutrition may be minimal despite actual needs warranting adjustments in their food choices. Less resistance may be encountered by avoiding excessive and unnecessary restrictions, and facilitating changes if the opportunity arises. Involving a spouse or the support of friends or other significant people may also be useful. Drawing on their own experiences, and showing, rather than telling, may also help them to make even a few changes.^{2,3} Even still, the person's right to refuse changes should also be honoured, and the true benefit of dietary recommendations questioned.⁵

The aging process itself forces certain physical changes. Additional changes such as being on a fixed income, loss of spouse and family members and other influences on the home environment may cause changes to lifestyle that ultimately affect food choices. These seniors may have little or no choice about whether to seek out or resist the changes thrust upon them. They do the best they can considering the forced influences on their diets. Their own nutrition concerns may be to cope with dietary requirements brought on by health problems, but still within their physical and financial means. This is a group who may be at high risk for nutritional deficiencies and inappropriate weight changes which can further exacerbate their health problems. The challenge for health practitioners is to work within the many factors that influence their food selections, and develop practical changes for them.^{6,7}

Studies show that age is the single most important factor in influencing health behaviours, more significant than gender, race, income or occupation. This is due to the many physical, psychological and sociological changes that occur with aging. In terms of nutrition and food choices in older people, these factors largely determine what and why certain foods are obtained and how they are prepared. Since nutrient needs remain the same or increase while calorie needs decrease with aging, obesity is a common problem. Undernutrition, due to ignorance of nutrient requirements or inability to obtain, prepare or eat certain foods, may also be seen, although this may be masked if obesity does exist too.⁶

While becoming aware of these many influences on food selection, we must also be careful not to "pigeon-hole" people, and to be aware that some seniors may even move from one phase to another. For example, someone adapting and coping for many years with different changes may later resist and prefer to live his life out qui-

etly. Conversely, a senior with an initial resistance may become motivated to change. For some seniors, it may be unrealistic to expect changes in long-standing food preferences and habits, especially if there is little to gain in health benefits.

As the population of seniors continues to grow, health professionals in many fields need to be sensitive to and respect the concerns and capabilities of older adults. Nutrition is a central issue in seniors' lives, not only because food provides the means to sustain physical health but also because food is at the centre of many social, cultural and family activities that contribute to mental and emotional health.² However, it can never be considered in isolation, and the many influences on food selections are critical to ensuring that the most appropriate diet be encouraged and provided. 🍎

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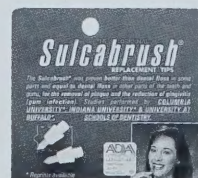
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Focus Group Workshop



by Jenny Thomas, DT, RDH, BA, MEd, (far right) and Dale Scanlan, RDH, (3rd left) with some of the workshop participants.

Eight seniors from Victoria, participated in an innovative and successful focus group workshop, with Dale Scanlan, RDH, as facilitator. They provided us with many useful suggestions for enhancing dental hygiene services for older adults. These included:

- More information on what's available in the community, with a range of costs that could be expected; an indication of which dentists gave discounts for seniors; and how to obtain second opinions.
- Interviewing methods at the dental practices often rather offensive. Seniors prefer to feel that it is a mutual exchange of information during which they have the opportunity to assess the office. Help with using self-assertive techniques would be valuable.
- Individual office staff to wear name badges that include roles. This would provide more credibility for positions and give information on exact functions of the personnel.
- Dental hygienists should display their licences which, if possible, should be placed at eye level for easy reading.
- Information be available on preventive measures, basic oral hygiene procedures, and details about the whole mouth including the jaw. Other topics of interest are the reasons for loose dentures, cosmetic dentistry, occlusion and implants.
- At-home services provided by salaried dentists and hygienists.
- Assessment services with a modicum of privacy, even if only a screen.

- Retired dental professionals could volunteer their services at community centres or other locations where seniors gather.
- Malls, libraries, pre-retirement groups, luncheons, medical doctors offices and churches for information transfer sessions.
- Pamphlets useful, but often difficult to read.
- Include dental health information in Seniors health week, seniors magazines, and seniors newspapers.
- List an emergency dental number in the phone book.
- Seniors' peer counselling groups to be utilized as resources for dental hygiene information.

Conclusion

Many of the services that seniors are looking for could be provided by dental hygienists.

Seniors like to be treated with respect. They like to be given adequate information that allows them to feel that they are in control, and can make an informed decision.

Seniors are also interested in obtaining dental services for less fortunate peers.

Humour was very apparent, and all of the focus group members re-emphasized that the best way to deliver any message, especially one such as dental health, was with a sense of humour.

The hygienists who participated were all excited by the very open and frank discussions — and were anxious to return to work so that they could implement the ideas that were being generated. 🐾

New Horizons for Dental Hygienists - Expanding Beyond the Private Practice Mode

*Presented by
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*and
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Workshop summary

The workshop was developed with the knowledge that working in alternative practice settings can provide great opportunities for professional and personal fulfilment.

New directions in health care and the factors that are driving them were reviewed to help paint a picture of the future and identify opportunities on the horizon for dental hygienists. The impact of: our nation's economic problems; the high cost of health care; governments' need to bring costs under control yet offer more or better service; and the changing perspectives and demands of the public were discussed with regard to their potential impact on practice opportunities for dental hygienists.

Closest on the horizon will likely be opportunities to service the groups who currently do not receive regular dental care such as: seniors living in care; de-institutionalized mentally and physically handicapped; new Canadians (immigrants); native/aboriginal people; and clients on social assistance.

Certain attributes were identified as helpful in dealing with these clients, including empathy, patience, caring, a holistic mindset, dedication to a multi-disciplinary approach, and ethical motivation.

Multidisciplinary health promotion projects are becoming increasingly common. Examples of existing projects and programs were reviewed, such as seniors' wellness programs, and pregnancy outreach programs which target high-risk women. Many currently have no dental component and would be enhanced by one. Health promotion is not the exclusive territory of any one discipline, and participants were encouraged to get involved with existing projects or consider spearheading the development of program proposals.

Future employment alternatives were discussed. Some of these included: acting as a dental health consultant to various groups; being part of a mobile health service; or caring for the institutionalized. Even settings which don't currently exist were discussed. One example was a new concept health clinic which might exist in a community recreation centre and offer a wide variety of preventive-oriented health services (i.e. health education, immunization, vision and hearing screening, nutrition counselling and preventive oral health services).

Next, the dental health status and future dental health needs of adults were reviewed. It was identified that a large majority of the services needed in the future will be those that dental hygienists are qualified to deliver.

In light of this, current and future dental economics were highlighted and participants were asked to consider the questions related to:

- an economic downtrend and corresponding decrease in dental profits
- patterns of employment
- substitution of dental hygiene labour
- service provision based on fee guides
- changing insurance coverage

Given the sobering nature of these questions, three suggestions were put forward for dental hygienists currently in private practice settings. These included:

- practising high quality care in the most ethical manner possible;
- educating your clients about who you are and what you are doing for them, so they understand the care they are receiving is by a dental hygienist;

- consider negotiating an economic partnership with a dentist to demonstrate a willingness to share in the economic risks of running a dental practice.

At any rate, the time is right for dental hygienists to establish a diversity of employment options to ensure appropriate care for all segments of the population and a positive future for the profession.

The workshop focused from this point on how to get started in alternative practice settings, using a 9-point plan:

1. Identify your greatest personal attribute or strength, in order to utilize and capitalize on this in any alternative setting. (Remember, alternative employment options frequently have challenging clients - you need every advantage you can get!)
2. Identify a client group that interests you.
3. Establish a client profile (description of the characteristics of the group, such as age, gender mix, first language, etc.)
4. Identify clients' oral problems.
5. Determine if the dental hygienist is an appropriate oral care provider given the oral problems of the client group.
6. Identify the barriers to oral health for that group. Examples might include financial barriers, physical barriers (health compromised, can't access service; or declining ability to do oral self-care; no transportation), psychological barriers (aversion to professional dental care), educational barriers (lack knowledge and skills to provide good oral care for self or others), behavioural barriers (unable to co-operate in professional care setting) or cultural values, (oral health not considered important).
7. Focus on one barrier that you have the expertise and resources to tackle.
8. Further define the barrier you have focused on; determine the contributing factors to that barrier.
9. Identify elements required for change to occur (eg. education, skills, more time available, change in attitude)

As the facilitators worked through these points using the long-term care setting as an example, participants were encouraged to do the same with a particular client group or alternative setting which was of interest to them.

A possible job description for a dental hygienist in a long-term care setting was reviewed, along with some of the challenges typically found in this particular setting.

The participants were involved in a small group activity. Each of the 5 groups were assigned an alternative employment option and given the task of developing a

job description for a dental hygienist in that setting. Some exciting ideas were generated and shared through that exercise.

Steps for success in alternative settings were highlighted, such as the importance of getting key people in the setting on-side, and of building relationships within the setting (nutritionists were identified as kindred spirits). Strategies to survive such realities as budget cuts, and changes in administration were offered.

The workshop concluded with exhortation on the importance of doing it right, as dental hygienists may not get another chance in an alternative setting. 📌

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Nancy Prowse (H) 465-5672 (W) 494-8861

or

Andrea Brennan (H) 423-9153

STUDY CLUBS: Learn how YOU can initiate one in you community



*by Nancy Keselyak,
RDH, MA,
Educational Consultant for
NAN-KES: Partners in
Education, and
Continuing Education
Co-ordinator for CDHA.*

Throughout the conference, much discussion centred on determining what the public really wanted from health care. This included looking at ways to involve people in the planning and delivery of services closer to home. The community-based study club utilizes these same principles to assist dental hygienists in planning for their own professional development and organizing continuing education activities that address their individual learning needs while staying close to home.

This workshop was designed to explore the "study club" concept as a form of continuing education and professional development. As well, it was intended to assist participants in learning how to initiate a club in their own community.

The session started with participants introducing themselves, indicating past experiences with study clubs and identifying what they wanted to learn about study clubs. Several people had participated in clubs before and briefly described their activities. Others had no experience with study clubs but wanted to become involved with one. The discussion was every interesting as people from across Canada shared their ideas and experiences. As a group, the participants wanted most to learn how to start a study club and how club activities received continuing education credits. They were also interested in hearing about possible topics and various formats including literature review clubs and clinical practice sessions.

Following a brief look at the advantages study clubs offer, participants began discussing the key issues related to initiating a group. Topics covered were the **membership**, as it related to group dynamics, geographic location and type of program planned; **time and dates**

focusing on the group's needs and interests; **subject matter** which may be identified through participation in the CDHA workshop entitled, "Taking steps to ensure quality dental hygiene care", and should be very specific; **mentors** including the criteria used in selection; **program format** such as clinical, non-clinical, research oriented, literature review, case studies or a combination of formats; **facilities** basing selection on the program format and the number of club members; **dues** with respect to covering club expenses; and the club as an **organization** with a set of guidelines in the form of a constitution. Part of the discussion illustrated that each of these issues comes together as interrelated factors and cannot be addressed in a linear manner. As one area becomes more clear, another is affected. For example, if a club decides to have a clinical component, the number of participants will be necessarily limited to the type of facility available and the number of mentors available to provide the degree of facilitation desired by the club members.

At several points along the way, participants broke off into smaller discussion groups to brainstorm on plans for their own study clubs. The sharing and comparing of ideas was helpful in getting people started. The workshop emphasized a practical approach to utilizing resources within the community. Various organizational options and details were addressed to assist participants in designing a club to meet their learning needs and interests. Breaking away from the traditional modes of thinking and being creative in approach was a central theme for the workshop.

Participants received study club registration packages to assist them in preparing for a study club term. Each package contained a registration form from the CDHA-CE Co-ordinator, a study club guide outline, a "fill-in-the-blank" constitution form, and a sample constitution. The purpose of the CDHA registration form is to track the existence of study clubs throughout Canada, offer assistance when possible, and act as a liaison between clubs to share information and activity ideas. The group felt that this study club "network" would be a valuable aid to dental hygienists as they pursue their own professional development as well as to the growth of Dental Hygiene as a profession.

The time went by very quickly — especially considering our group met during the last few hours of the conference. Enthusiasm was high and we all look forward to seeing many more study clubs surface over the next few years. ■

Abstracts

Poster presentation

Oral Health Needs of a group of Alberta Seniors

DGW Thompson, J Farrow and J Dahl. Vegreville Health Unit, Vegreville, Alberta.

Objective

The objective of Phase 1 of the Vegreville Health Unit Survey was to assess the seniors' perception of oral health needs in the Vegreville area. The information gathered will be used to determine what types of programs would help meet the dental needs of seniors in the community.

Methods Employed

Senior citizens from five senior dwellings and homeowner lists in the City of Vegreville were randomly chosen to participate in a survey on oral health. All selected residents were contacted by telephone to arrange a mutually convenient time for an interviewer to visit their residences to conduct the survey. Each participant was assured of complete confidentiality of responses, and informed that names only appear on the signed medical history. ID numbers were assigned to each participant. A total of 152 senior adults completed the study. They ranged in age from 65 to 93 with a median age of 75 years. A total of 40 per cent were edentulous.

Data were collected by utilizing a) medical history, b) a self-administered questionnaire, and c) a social survey questionnaire all of which are part of the National Dental Epidemiology Project. All three components were conducted by an interviewer (dental hygiene student or dental hygienist) reading the questions aloud as the respondent read along on an enlarged and laminated copy of the survey.

A second phase, involving oral examinations of the residents, is planned for 1992/93 utilizing the format of the National Dental Epidemiology Project of the Canadian Dental Association.

Results and Conclusions

Thirty-five per cent of seniors perceived a need to seek dental treatment. Half of the group were unable to eat an apple with their present teeth. There is a high need for dental treatment, thirty-five per cent, among seniors in Vegreville which would probably be higher after clinical examination.

Oral presentation

Head and Neck Cancer and Oral Manifestations of Cancer Therapy.

K. Rostrom, Dental Hygiene Program, Camosun College, Victoria, British Columbia.

Studies have indicated that cancer now strikes 35 per cent of the population sometime in their lifetime. In Canada, cancer accounts for one in every four deaths. Head and neck cancers can often be discovered by the dental hygienist. As health professionals it's our responsibility to detect any abnormalities, as soon as possible, thereby increasing the clients' chances of survival. As health professionals, we must also ensure that we have a complete understanding of the oral manifestations of cancer therapy. We are often relied upon to inform clients how they can best reduce discomfort from intraoral lesions, xerostomia, and mucositis.

Briefly, the importance of routine head and neck examinations will be discussed and slides presenting malignant lesions will be shown. An overview of the types of cancer therapy will be introduced with emphasis on the oral related side effects. Treatment and maintenance protocols will be addressed with special emphasis on xerostomia and mucositis.

As a result of this presentation, the dental hygienist will be able to improve basic knowledge of this subject and take away concrete information that can be utilized on a daily basis.

Video presentation

A Dental Health Month Project at Maple Bay Manor, British Columbia.

S. Hemming, M. Weland, J. Birk, S. Thompson and C. Dudley, Cowichan Valley Dental Group, British Columbia.

This year's Dental Health Month venture included a visit to a local seniors' residence. Our goals for this endeavour were to:

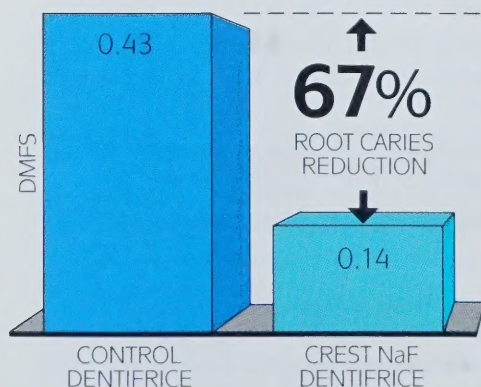
1. Provide information on oral care to a specific group, being keenly aware of their particular needs.
2. Use and develop our skills and knowledge.
3. Foster teamwork.

A number of us from a dental clinic in Duncan, B.C., arranged a presentation at a small group home. This video presentation will describe how each dental team member prepared for this demonstration.

Through a panel discussion format, we determined that our efforts met our aims.



CREST IS THE ONLY DENTIFRICE CLINICALLY PROVEN TO HELP PREVENT FRUSTRATING ROOT CARIES



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age 40 have at least one carious or filled root surface lesion,² that's important to know.

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References: 1. Jensen ME, Kahout F. The effect of a fluoridated dentifrice on root and coronal caries in an older adult population JADA 1988; 117:829-832. 2. 1985 NIDR adult oral survey Oral Health of United States Adults (1985-1986)

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"Crest contains sodium fluoride which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care." CANADIAN DENTAL ASSOCIATION

Problem-based learning: Another approach to education

a report by Mary Bondarchuk, RDH, BA

Problem-based learning (PBL) may be defined as an instructional approach in which a problem/situation is the starting point for identification of student learning needs and objectives. This is a departure from the more traditional process of educating students whereby a given problem/situation is presented for the purpose of applying acquired knowledge to solve the problem.

In the last few years there has been a steady increase in the adoption of problem-based learning in the education of health professionals to address an overcrowded curriculum, and the accompanying problem of the ability of students to retain and utilize information largely delivered by lecture.

More importantly, there is greater recognition that learning is not a process in which the learner is the passive recipient of information, but is viewed by educators as a constructive, goal-oriented process that depends upon the active involvement of the learner. This position supports the activities related to PBL, as this approach delivers a curriculum through a well thought out and integrated series of health care problems, discussed in a series of small group tutorial seminars, utilizing a student-centred approach to attain self-directed learning (Mayberry, Requa-Clark, Feil, Harrington, Taylor, 1991).

During the conference, four small groups circulated and participated in working sessions to discuss key components of PBL such as:

- curriculum/problem development
- students in a PBL curriculum
- tutors/facilitating group discussion
- evaluation

Curriculum

The curriculum is problem-based as compared to being subject oriented. The problems are designed to be realistic in order to be meaningful to the students, and are often based on actual cases with readily available support material such as records, models, radiographs, et cetera.

The solution to a problem is not the primary goal. The major focus is to analyze the problem, to identify the knowledge needed to understand the problem. To do so, the student is required to work with, and learn about, related multiple subject matter. Therefore, curriculum planning and problem design must be interdisciplinary.

Students

Small tutorial groups consisting of five to seven students and one or more faculty tutors meet once or twice a week for thorough discussion, to examine group learning

objectives, and to devise management plans aimed at consolidation and improvement of understanding of the presented problems. Group process is utilized to share knowledge, provide insights, question and evaluate information and arrive at a consensus for determining group learning objectives.

Individuals, to be effective participants, must come prepared to support and contribute positively to this learning process. To do so, it is necessary for students to possess the skills and discipline for self-directed learning which is an integral part of PBL. Consequently, analytical skills, and the ability to search out resources, evaluate and challenge one's understanding are encouraged.

Small group learning provides opportunities to develop self-confidence and significant experience in learning to share leadership and negotiate with group members. Such interactions are appropriate as preparation for current and future dental hygiene practice which is a part of a small working group.

Tutors

Customarily the faculty is associated with didactic roles as content experts and transmitters of information. On the other hand, in PBL it is not unusual that faculty working with students do not have the expertise pertinent to the health care problem under study, nor is this necessary since the role of faculty is that of tutor as group facilitator.

Guidelines, suggested leading questions, and essential learning objectives are provided to the tutor to ensure that the planned learning objectives are included when the student group is examining the problem.

The tutor, however, is not only concerned with what the students learn, but also with how they learn by assisting them in self-directed learning, in identifying the key learning issues and group objectives. The tutor must also function to guide and support the group process, making certain that all students are involved and actively participating. Discussion between student and tutor is to be avoided, but encouraged among students, enabling the tutor to fade into the background.

As the educational roles in a PBL program are often unfamiliar and uncomfortable to faculty, a strong faculty development program is required emphasizing group dynamics and facilitating skill development.

Evaluation

In PBL programs, students are provided with experience in being evaluated for their accumulation of content

knowledge to prepare for licensing exams. The major focus of evaluation, however, is directed at examining performance.

All persons directly or indirectly involved in a PBL program participate in evaluation. Student input is essential in the total involvement of PBL, including evaluation of self, peers, tutor, content experts, resources, and the problem.

During each group session, individual and group performance is discussed and written down to be collected at each session. The tutor must document and advise students of their progress to avoid surprises.

Comment

In general, studies comparing achievement outcomes between problem-based and conventional curricula show little differences, as there have been difficulties with mea-

surement of clinical competence. The goals of dental and dental hygiene education are reviewed as an ongoing process to address the need to change direction, resulting in a steady increase in the adoption of PBL curricula.

Given the acquired skills in self-directed learning of graduates of schools implementing PBL programs, it would seem that they would be more effective continuing learners, better equipped to cope with rapidly changing developments and more responsive to the needs of society. ■

Reference

Mayberry, WE, Requa-Clark B, Feil PH, Harrington MS, Taylor TS. *An Introduction to Problem-Based Learning*, 2, 1991.

This is an annual conference attended by Canadian dental and allied dental educators.

CONTINUING EDUCATION

ALBERTA

Effective Hygiene Protocol for Implant Patients

Speaker: Karima Bapoo-Mohamed
Date: Friday, October 23, 1992
Place: Edmonton, Alberta
Contact: K. Bapoo-Mohamed
Tel: (403) 488-1240 Fax: (403) 488-2798

Dental Hygiene in the 21st Century: Consumer Products & Professional Protocol

Speaker: J. Pimlott
Date: Saturday, November 7, 1992
Place: Calgary, Alberta
Contact: Division of Continuing Education, University of Alberta
Tel: (403) 492-5023 Fax: (403) 492-1624

BRITISH COLUMBIA

Changing Trends in the Use of Fluoride in Caries Prevention

Speaker: Dr. E. Newbrun, Dr. C. Clarke
Date: Saturday, November 14, 1992
Place: Vancouver, British Columbia
Contact: UBC, Continuing Dental Education — Tel: (604) 822-2627

Issues in Contemporary Dental Health Care Delivery

Speaker: Dr. I.R. Woodhall
Date: Saturday, December 5, 1992
Place: Vancouver, British Columbia
Contact: UBC, Continuing Education — Tel: (604) 822-2627



30

YEARS
ANS

CFDE OFFERS SUBSTANTIAL SUPPORT TO DENTAL HYGIENE IN 1992

The Canadian Fund for Dental Education is pleased to announce that dental hygiene programs received major funding awards totalling \$46,153. from the CFDE in 1992.

The Niagara College Dental Hygiene Program, Welland Campus, was granted and received dental equipment valued at \$22,133 made possible through the generous sponsorship of SciCan of Toronto. The donation will aid the reinstatement of the dental hygiene program which was suspended in 1988. The college plans to renovate its facilities, install more equipment and admit 23 to 30 students in 1992 to its dental hygiene program.

The CFDE also granted \$16,020 to the Allied Dental Educators Committee of the Association of Canadian Faculties of Dentistry (ACFD). The funds will support planning sessions for the revision of the national dental hygiene competency document, and the national dental assisting competency document.

The 1992/1993 CFDE fellowships for dental hygiene education totalled \$8,000 including the Warner-Lambert fellowship for dental hygiene teachers. Recipients of this year's awards are:

Charla Joyce Lautar of John Abbot College, a Ph.D. candidate in Calgary, who is conducting a study into future career aspirations of dental hygienists, the role of continuing education and the quality of worklife.

Carolyn Kay of George Brown College, Toronto, is enrolled in a M. Ed program of study with a specialization in health professional education.

Dental hygiene teachers **Janet Erikson** and **Jackie Smorang** of Foothills Hospital in Calgary each received a Warner-Lambert fellowship of \$2,500. They are working on a joint project to establish and monitor a preventive oral care program for a large local extended care facility.

Since its inception 30 years ago, the CFDE has funded \$105,850 in fellowships to dental hygiene teacher/researcher training and more than \$128,000 in grants supporting programs, workshops and conferences directly benefitting allied dental health professionals.

Dental Hygiene recipients of CFDE Fellowship Awards have included:

Bassett, Shirley
Brownstone, Ellen
Chochla-Clark, L.F.
Clarke, Denise E.
Cotton, Frances R.
Dempster, Laura J.
Dettbarn, H.
Dimitri, M.
Edgington, Eunice
Forqay, M.G.E.
Halowski, W.
Isaac, S.
Johnson, Patricia M.
Jones, L.M.G.
Kasianiuk, D.S.
Keith, Fay P.
Krievins, Tamara
Larder, Peggy
Lautar-Lemay, Charla
Lavigne, Salme E.
MacDonald, K.
Matheson, Susan
Mierins, Karina L.
Nagle, S.
O'Connor, S.
Orschel, Nancy
Phillips, D.F.
Pimlott, Janice F.
Roberts, Daniel P.
Smorang, Jackie
Stevens, L.
Trodden, Bonnie
Wener, Mickey

CFDE offers two types of fellowships to dental hygienists each year:

CFDE FELLOWSHIPS FOR TEACHER/RESEARCHER TRAINING are awarded to individuals who plan to become dental or dental hygiene teachers in Canadian dental schools or dental auxiliary training programs, and who guarantee to pursue a teaching career for a minimum of 2 years for each year of fellowship received. A formal application form with official transcripts and letters of support must be received by the CFDE office by **March 1st**.

WARNER-LAMBERT SPONSORED FELLOWSHIP FOR DENTAL HYGIENE TEACHERS / COMMUNITY HEALTH HYGIENISTS

provides an opportunity for an established teacher in one of the Canadian schools of dental hygiene program, to refresh and extend his or her knowledge in any field of dental hygiene education or research, or in the field of community dental health. A fellowship valued at \$2,500 is made possible each year by Warner-Lambert Canada Inc. **The deadline for application is March 1.**

APPLICATIONS FOR THE ABOVE CAN BE OBTAINED BY CONTACTING
THE CFDE, 1815 ALTA VISTA DRIVE, OTTAWA, ONTARIO K1G 3Y6 TEL. 613-731-0493

Applied Pharmacology for the Dental Hygienist

Barbara Requa-Clark and Sam V. Holroyd. Second edition, The C.V. Mosby Co., 11820 Westline Industrial Drive, St. Louis, Missouri, 63146. Copyright 1989. 101 illustrations, indexed, 298 pages, \$41.75 (Can.).

Reviewed by Salme E. Lavigne, RDH, MS (DHed), Associate Professor and Chairman, Dental Hygiene Department Wichita State University, Wichita, Kansas. Formerly Co-ordinator, Dental Programs, Confederation College, Thunder Bay, Ontario.

This book consists of 26 chapters and is directed towards the undergraduate dental hygiene student or practising dental hygienist. It contains information relevant to the dental hygienist, particularly in the growing area of geriatric medications. The latest cardiovascular agents and their dental implications are also thoroughly discussed. An entire section of the book, comprising eight chapters, is devoted to drugs that may alter dental treatment. An added feature is a list of the 200 most commonly prescribed drugs.

Topics covered are current and up-to-date. A thorough discussion of the basics of pharmacology, including pharmacokinetics, adverse reactions, drug interactions and drugs encountered in dentistry, is included. In addition, specific drug groups having dental implications are discussed in detail. Of particular interest to the dental hygienist is a thorough description and identification of drugs causing xerostomia.

This book is clearly and concisely written and is a readily understandable undergraduate text. It is well organized with important concepts discussed under appropriate sub-headings. Each chapter includes tables and figures which clarify concepts discussed.

References occur at ends of chapters; however, they are not found in all chapters. Those present appear relatively current overall. Considering that material covered is representative of the current state of the art, the book would be enhanced if all chapters were referenced.

Adding to the uniqueness of the text, are chapters covering topics not always found in other pharmacology texts such as pregnancy and breast feeding, drug abuse, fluorides and antineoplastic agents. Illustrations and tables are also clearly explained enhancing the understandability of the material.

This second edition has focused on specific needs of the dental hygienist, whereas the first edition was more technical and contained advanced subject matter difficult to decipher.

I highly recommend this text for use in undergraduate dental hygiene programs and for dental hygienists wishing

to update in pharmacology. It is very readable and understandable with review questions included at ends of all chapters. The chapters are relatively short, concise, yet thorough with dental hygiene relevance addressed. The list of the 200 most commonly used drugs at the end of the book is a nice addition providing a quick reference. An accompanying workbook and instructors guide are being considered by the authors which would definitely be an asset.

Essentials of Oral Histology and Embryology: A Clinical Approach.

James K. Avery and Pauline F. Steele. First edition, Mosby-Year Book Inc., 11830 Westline Industrial Drive, St. Louis, Missouri, 63146. Copyright 1992. Illustrations, indexed, 224 pages, \$37.25.

Reviewed by Constance R. Sharuga, RDH, PhD, Instructor of Dental Hygiene, College of New Caledonia, Prince George, BC.

The purpose of the textbook is to familiarize dental professionals with background information on oral histology and embryology as it relates to clinical dental hygiene and dental practice. The authors state that this book has been especially written for dental hygiene students (among others) with specific considerations of clinical connotations.

There are sixteen chapters in this text. The first two chapters provide a concise review of basic cell, tissue, and organ development and function. Included in each chapter is a chapter overview, self-evaluation questions, acknowledgments, and suggested readings.

The remaining chapters focus on oral histology and embryology. What sets this book apart from others, in my opinion, are the coloured photographs, low light and high magnification electron microscopic photographs, and diagrams. The authors made an effort to place the illustrative material close to the narrative, which enhances understanding of the text.

Each chapter is well organized, concise and clearly written. Of special notice, are the clinical comment sections found in each chapter. The authors tie in an histologic consideration with appropriate clinical manifestations. This adds to a greater understanding of why a study of oral histology and embryology is a relevant science foundation course.

I highly recommend this text and have adopted it for student use next year. Even if you have been away from school awhile, pick up this book and you too will become excited about the dynamic cellular forces that shape the oral environment. ■

SELF ASSESSMENT TEST

CLINICAL DENTAL HYGIENE

1. The measurement of attachment loss records the:
 - a) distance from the CEJ to the epithelial attachment
 - b) distance from the gingival margin to the epithelial attachment
 - c) visible area of depression
 - d) pocket depth
2. Titanium implant abutments may be scaled with:
 - a) stainless steel instruments
 - b) titanium instruments
 - c) plastic instruments
 - d) b) and c)
3. The ODU 11-12 explorer (Hufriedy) is recommended for exploring pockets in distals of posterior teeth by using:
 - a) the opposite end to the mesial end
 - b) the same end as the mesial end
 - c) either end
 - d) none of the above
4. A characteristic feature or features of HIV gingivitis is/are:
 - a) candidiasis
 - b) exaggerated marginal redness
 - c) speckled gingivitis
 - d) all of the above
5. Considering the presence of the micro-organism bacteroides gingivalis in most cases of chronic adult

- periodontitis, the hygienist should be familiar with its new name:
 - a) prevotella intermedia
 - b) bacteroides intermedius
 - c) porphyromonas gingivalis
 - d) bacteroides melanogenicus
6. Chlorhexidine gluconate is one of the most thoroughly researched oral antimicrobials. Its effectiveness can mainly be attributed to its:
 - a) strength
 - b) antiseptic properties
 - c) substantivity
 - d) b) and c)
7. Titanium implants may be polished with:
 - a) any type of prophyl paste
 - b) flour of pumice
 - c) an air polisher
 - d) none of the above
8. The American Academy of Periodontology does not recommend the use of hydrogen peroxide as a mouth rinse because of its possible:
 - a) carcinogenic effects
 - b) tissue irritability
 - c) cause of black hairy tongue
 - d) toxicity
9. For use as a prescribed home mouth rinse, chlorhexidine gluconate should be diluted to a strength of:
 - a) 2.0%
 - b) 0.2%

- c) 0.12%
- d) 0.012%

10. Periodontal files are:
 - a) useful in crushing heavy calculus deposits
 - b) useful in removing heavy calculus deposits
 - c) useful in roughening the root surface
 - d) antiquated and should not be used by hygienists

Extra

11. Extra oral fulcrums may:
 - a) never be used
 - b) be used for scaling in any area
 - c) be used to root plane difficult to access areas
 - d) be used for polishing with a handpiece.

This self-assessment test was prepared by Salme E. Lavigne, RDH, MS, Associate Professor and Chair, Dental Hygiene Department, Wichita State University, and Susan E. Raynak, RDH, Professor, Dental Hygiene Program, Confederation College, Ontario.

Answers
1. a) 2. c) 3. b) 4. d) 5. c) 6. c) 7. b) 8. a) 9. c) 10. a) 11. c).

Vancouver, B.C.

We are seeking a second full- or part-time hygienist to join our progressive Kerrisdale practice. Nice location, appreciative patients, friendly team, and commitment to quality care. Please contact Miche or Dr. Norris at (604) 263-1855.

Edmonton

Hygienist required for a south Edmonton-based dental practice. This is a one-year minimum, contract position. Please send résumé to Bonnie Doon Dental Centre, 273 Bonnie Doon Centre, Edmonton, Alberta, T6C 4E3. Attention: Robyn.

Whitehorse, Yukon

Hygienist needed immediately

Full-time, energetic, devoted hygienist required in a 6 operatory preventive practice in booming downtown Whitehorse. Experience is preferred, but new grads are welcome.

Salary, benefits to be discussed. Serious applicants please, fax résumé to Pine Dental Clinic (403) 668-5121 or leave message at (403) 633-4528.

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Vancouver Island, B.C.

Fun loving dental team seeking hygienist. Licensing requirements in B.C. relaxed Jan. 1, 1992. Four-season playground: 45 min. to great skiing and mountaineering, salmon capital of the world, all ocean sports at your doorstep. Call Dogweed Dental Health Centre, collect: (604) 287-2141.

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A friendly, conscientious hygienist with a good sense of humour required for well established centrally located practice. Please call collect Mon.-Thurs. (604) 873-3301 for more information.

Medicine Hat, Alberta

Progressive group practice requires a full-time dental hygienist. Salary level and benefits such as a pension plan makes Medicine Hat very attractive. Central sterilization takes care of all instrument sterilization. S.E. Alberta has many recreational opportunities with Medicine Hat having a very low cost of living. Practice has a panoramic view of the South Saskatchewan River. The atmosphere is bright; a very pleasant working environment. Please respond to:

River Centre Dental Clinic
378 - 1st Street SE
Medicine Hat, Alta. T1A 0A6
Phone: (403) 526-5991
Fax: (403) 529-9043

Hygienist needed for Summerland, B.C.

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K1Z 6A5

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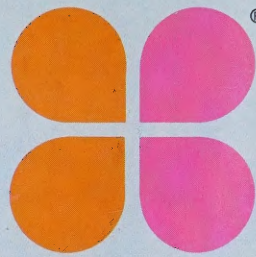
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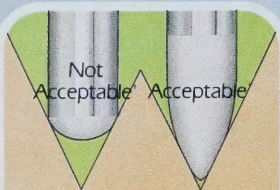
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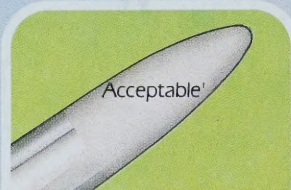
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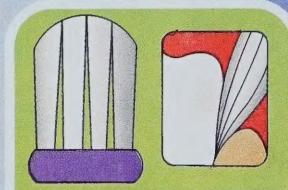
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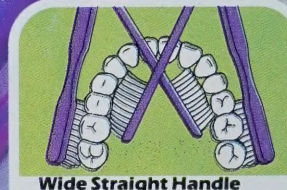
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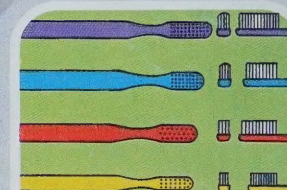
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PRESIDENT'S MESSAGE



Lorraine Boomhour, RDH

Quality Assurance – What does this term mean and what does it mean for you as a Canadian dental hygienist? According to the information prepared for the Quality Assurance, Practice Standards Workshop, quality assurance is, “the assessment or measurement of quality of care and the implementation of any necessary changes to either maintain or improve the quality of care. Quality assurance encourages monitoring, prescribes and implements strategies to correct deficiencies, requires reassessment and is ongoing”.

After facilitating a number of quality assurance workshops, in various parts of the country, it has become apparent to me that some of you are having a real struggle with practising the quality of care that we were all taught.

Some dental hygienists are required to take radiographs of all clients every six months with no regard to caries history or stage of tooth eruption. For some of you the appointment length is fixed at thirty minutes. One is supposed to update medical history, take blood pressure, complete a head and neck examination, an intra oral exam, a thorough caries and periodontal assessment, take radiographs if necessary, complete the required prophylaxis and spend time educating, socializing and making the patient feel comfortable and welcome in the practice.

There are offices where, although literature does not support universal 6 month care, the patients are to be seen by the dental hygienist once every six months, have all of their dental hygiene care completed in the allotted thirty minutes and the patient is not to be “inconvenienced” by having to return before their next six months visit even if

their dental hygiene treatment hasn't been completed.

In some offices a dental hygiene appointment is forty minutes in length and if the patient requires a very small amount of scaling and selective polishing the dental hygienist is required to spend the whole appointment time “being busy” so that the “appropriate charge” can be made.

Some dental hygienists are working part-time in dental offices and are aware that when they aren't available a dental assistant is performing the duties of the dental hygienist.

What are dental hygienists to do? I don't pretend for one minute to have all the answers although I do have some suggestions. First I want you to remember that as dental hygienists we are professionally responsible and accountable for the care of our patients. We must be able to go to sleep at night knowing that everyone in our care received the very best possible dental hygiene treatment.

Students or dental hygienists seeking employment should assure before accepting a position that the patient care policies agree with the Clinical Practice Standards for Dental Hygienists and that these policies are available in writing. Discuss openly with your new employer and arrange to have time on a regular basis to discuss and plan patient care. Dental care is a collaborative effort requiring open, honest communication and agreement between the dentist and dental hygienist. *Principle 4: Standards 4c CDHA Code of Ethics.*

A “new” dental office may be the answer for those dental hygienists who find it impossible to provide the individual dental hygiene

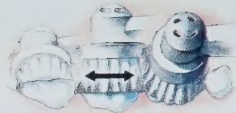
care and treatment that our clients require. I hope that much discussion and dialogue would take place before this move. We are all learning and growing and it takes time and patience to make changes.

Each province has legislation and a licensing body to both protect the public and assure that appropriate care is available. As stated in the *CDHA Code of Ethics*, it is the professional responsibility of dental hygienists to “report incidents involving unethical care that cannot be resolved within the practice setting” *Principle 5 Standard 5b)iii.*

There are a number of things we as dental hygienists can do to improve the quality of care where we work: Obtain a copy of the Clinical Practice Standards – discuss them with your colleagues, (the dentist and other dental hygienists in your office). Arrange a “Taking Steps to Ensure Quality Dental Hygiene Care” (quality assurance) workshop in your area and invite the dental hygienists to become more familiar with the practice standards. You will be able to complete a confidential practice standards assessment at your leisure and begin to target areas for change or improvement. Attending these workshops is a way of monitoring and evaluating your own practice, and it is a place to share ideas about making changes or improvements. Share this article with the dentist in your office. It could be the vehicle to open the discussion regarding the practice standards you want to follow. If you are in a practice, as I am, where dental hygiene issues are freely discussed; we **continue** to assess, change, improve, and evaluate. Think about other ways we can use our standards to become the best and thus gain public recognition for our commitment to current clinical practice standards.

I am **very** proud to be part of an organization that looks at practice standards and proud to have colleagues who are committed to improving their skills and enhancing the health of the public.

For a copy of Clinical Practice Standards for Dental Hygienists in Canada, CDHA Code of Ethics for Dental Hygienists or Quality Assurance Workshop information contact CDHA, 1018 Merivale Road, Suite 201, Ottawa, K1Z 6A5.



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*Canadians attending
12th International Symposium
on Dental Hygiene,
The Hague, Netherlands*

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A CDHA Visit to Alberta

CDHA President, Lorraine Boomhour, made the most of her opportunity to visit with members of the Alberta Dental Hygienists Association (ADHA) in Calgary during the CDA/CDHA/CDA A Convention, August 29-September 2, 1992. Lorraine was able to address many Alberta dental hygienists and honour outgoing past-president, Myrna Frizell, who is from Kitscoty, Alberta. The ADHA banquet was also a time for awards presentations as both Myrna Frizell and Calgary resident, Jackie Smorang, received the "Joanne Clovis Community Health" Award. These pins are given in recognition of outstanding achievements in the area of community health – Myrna



CDHA in Calgary: left to right M. Frizell, Imm. Past President; L. Boomhour, President; D. Mueller, NDHW Co-ordinator; J. Degan, Corporate Relations officer and F. Cotton, President-elect.



National Presidents: left to right, L. Boomhour, CDHA; B. Copp, CDA; and B. Delansky, CDA.

for her long standing contribution in the Edmonton vicinity, and Jackie for her intense involvement during the Calgary fluoridation referendum.

This was also the evening that Charla Lauter was presented with the CDHA Research Fellowship Award sponsored by Procter and Gamble. Jacqueline Valmont, Product Manager, Crest Canada, was on hand to present the \$3,000 cheque to Charla who is currently a doctoral candidate at the

University of Calgary. Charla is on leave from John Abbott College in Montreal and is conducting research into the continuing education needs of Canadian dental hygienists.

CDHA extends our appreciation to Kathy Gernhard and ADHA for organizing this event, our Alberta colleagues were most hospitable and an enjoyable evening was had by all.

Executive Council in Regina

Executive Council held their fall meeting in Regina, September 24-27, 1992, in conjunction with a presidential visit to the dental hygiene class at SIAST, and a meeting with the Saskatchewan Dental Hygienists Association (SDHA) executive. CDHA President, Lorraine Boomhour, facilitated a "Taking Steps to ensure Quality Dental Hygiene Care" workshop for members of SDHA. She also visited with our Saskatchewan members to discuss common issues and to hear how CDHA can best meet their needs. The whole executive was most grateful for the warm prairie welcome.

Executive Council came together from across the country to conduct business necessary for the efficient management of CDHA, and to plan for

the Board session in January, 1993. An agenda was also proposed for the joint meeting in Ottawa in March with the executive from the American Dental Hygienists Association. As part of the strategic planning process, Executive Council reviewed the CDHA mission statement and goals. In January the Board will set objectives for the association for the coming year. In addition topics such as membership, publications and National Dental Hygiene Campaign were explored with the idea of targeting the appropriate audience while meeting all of our members' needs – which is what CDHA is all about! In an effort to reduce time, travel and cost, Executive Council will begin to utilize conference calls whenever possible.

Our time in Regina was well spent.

We look forward to once again experiencing warm prairie hospitality at the CDHA Professional Conference in Saskatoon in June 1994. Please join us!



CDHA Executive had an opportunity to meet with the Dental Hygiene students at Wascana Institute while attending an Executive Council meeting in Regina Sept. 25-27.

1992-1993 CDHA Research Fellowship

CDHA is pleased to announce that Procter and Gamble Canada has become the sole sponsor of the CDHA Research Fellowship. CDHA and Procter and Gamble share a commitment to work collaboratively to improve the health of the public by fostering continuing education and research.

Charla Joyce Lautar has been selected as the 6th recipient of the CDHA Research Fellowship. This \$3,000 fellowship is awarded annually. Selection is made from candidates who are Canadian dental hygienists enrolled in a research-oriented Masters or Doctoral program.

Charla is a 1971 dental hygiene graduate of Ohio State University.

She is presently a doctoral student in the Department of Educational Policy and Administrative Studies at the University of Calgary. Having completed her coursework last year, she is preparing for her candidacy examination. Her main area of interest is professional development. As dental hygiene is expanding in the process of professionalization, her thesis plans to investigate continuing education and future careers of dental hygienists. The study will consider the realities of the baccalaureate dental hygienist, and the needs of the profession. One research objective is to provide insight into the feasibility of distance education, career advancement/enhancement, and general satisfaction in dental hygiene.

Past recipients include:

1987-88 Yvonne Knazan
1988-89 Bonnie Trodden
1989-90 Barbara Zier
1990-91 E. Brownstone
1991-92 Charla Lautar



Charla Lautar (left) receiving scholarship from Jacqueline Valmont (right) Product Manager Crest Canada

Call for Applicants

Canadian Dental Hygienists Association Research Training Fellowship '93-'94

Fellowship:

(1) \$3,000.00 award to be made annually

Eligibility:

Any Canadian dental hygienist enrolled in a research-oriented Masters or Doctoral Program may apply.

An applicant must be a member of CDHA

An applicant may receive a maximum of two Research Training Fellowships, but must reapply for the second year.

For an application form and further details, write:

Canadian Dental Hygienists Association

1018 Merivale Road, Suite 201
Ottawa, Ontario
K1Z 6A5

Application Deadline:
March 31, 1993

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Posters/Oral Papers/Table Clinics

CANADIAN DENTAL HYGIENISTS ASSOCIATION

announces a

NORTH AMERICAN DENTAL HYGIENE CONFERENCE

Research and Practice:

An Exploration into the Future

October 15-17, 1993 Sheraton Fallsview-Niagara Falls, Ontario, Canada

The deadline for submissions of abstracts for free papers, posters and table clinics is January 1, 1993. Selection will be made on the basis of the quality of abstracts. Notification to authors of accepted or rejected abstracts will be made by May 15, 1993. All selected abstracts will be published in the Conference Program.

For additional information contact: CDHA Research Conference, 201-1018 Merivale Rd., Ottawa, Ontario, K1Z 6A5, Canada.



Canadian Nurses Association

*Fernande Harrison,
President Canadian Nurses
Association*



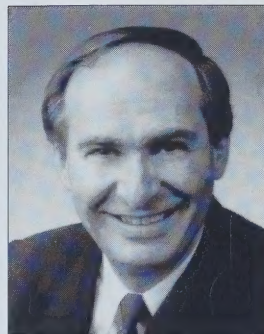
Fernande Harrison, President of the Canadian Nurses Association, will lead the national federation of nursing associations for 1992-1994.

"The role of the nurse is being rediscovered, redefined and reshaped and must be relevant to the community it serves", noted Mrs. Harrison during her incoming address. "Nurses have the competence and skills to empower individuals in the community, to help them make informed choices and choose the best treatment for themselves".

The CNA President is currently the Vice-President Patient Care, at the Greater Victoria Hospital Society in Victoria, B.C. She has worked in nursing administration in Alberta and British Columbia hospitals. She received her Diploma in Nursing from Montreal's Hôpital de la Miséricorde and her Bachelor of Science in Nursing and Master's Health Service Administration from the University of Alberta.

Canadian Dental Association

*Dr. Bernard Dolansky,
President Canadian Dental
Association*



Dr. Bernard Dolansky has assumed the office of President of the Canadian Dental Association following the Association's annual convention, held in Calgary at the end of August.

Dr. Dolansky has been active in all levels of organized dentistry including the Ottawa Dental Society and the Ontario Dental Association. He was ODA President in 1986-87.

Dr. Dolansky received his Doctorate in Dental Surgery from the University of Montreal in 1970, followed by his Endodontics Certificate and Masters of Science Degree from Northwestern University in Chicago. He has been practising endodontics in Ottawa since 1973. His many awards include a research fellowship from the Medical Research Council of Canada.

Position Statement on the Nurses' Role in Primary Health Care

The **Canadian Nurses Association** believes that nurses have a key role to play in primary health care as individuals and as members of an interdisciplinary effort to make primary health care a reality in the future of this country. Nurses, as first contact primary health care workers, provide comprehensive care and assist individuals and families to make appropriate use of formal and informal health care resources available in the community.

There are four main aspects of the nurses' role in primary health care: direct care provider; teacher and educator of health personnel and the public; supervisor and manager of primary health care services; and researcher and evaluator of health care.¹ These roles in primary health care enable nurses to:

- initiate health promotion activities and facilitate the involvement of individuals, families and communities in

their own health development and decision-making;

- assume a partnership approach and work more effectively with the community in co-ordination of the activities of health development;
- provide assessment and treatment;
- assist the community to participate actively in developing and implementing health services;
- provide health education and strengthen self-help techniques;
- collaborate with other primary health care workers;
- maintain epidemiological surveillance;
- evaluate effectiveness of services; and
- monitor progress in primary health care.

Approved by the CNA Board of Directors, March 1989.

Reference

1. World Health Organization. *Regulatory Mechanisms for Nursing Training and Practice: Meeting Primary Health Care Needs*. Geneva: WHO, 1986, p.13.



J. Smorang

CFDE Award



J. Erikson

Ms. J. Smorang and Ms. J. Erikson were awarded the 1992 CFDE/Warner-Lambert Canada fellowship for existing dental hygiene teachers for their joint project to establish and monitor a preventive oral care program at Foothills Hospital in Calgary.

CDHA Board of Directors 1992

Terry Mitchell, Nova Scotia
Sue MacIntosh, Nova Scotia
Audrey Newcombe, PEI
Linda Elkins, Newfoundland
Sharyn Milroy, New Brunswick
Lorraine Boomhour, Ontario
Brenda Garant, Ontario
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Myrna Frizell, Alberta
Christine Martinello, Alberta
Laura Mowat, Alberta
Margaret Wilson, Alberta
Maxine Borowko, British Columbia
Fran Cotton, British Columbia
Patricia Covington, British Columbia
Denis Cote, Canadian Forces

CONTINUING EDUCATION

January 1993

11-15	Dental Ed. in Care of the Disabled
15	Nitrous Oxide Sedation for Dental Team
16	Infection Control
16	Amalgam Controversy
16	Clinical Update – Dept. of Diagnosis
22	Assessment & Management of Pt. Care
29-30	Radiology for Dental Hygienists
30	CPR

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February 1993

5	A to Z System for Practise Mgmt.
10	Update on Implants
19	Medications and the Elderly
26	Challenge of Implant Soft Tissue Maintenance
26-27	Infection Control
27-Mar.1	Vernon Ski seminar

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SIAST – Wascana Campus	(306) 787-1375
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U. Manitoba	(204) 788-6331
U. British Columbia	(604) 822-2626

March 1993

3	Caries Treatment & Perio in the Future
3	CPR Re-certification
6	Dilemmas & Coping Strategies for Working Women
19	Is there anything new in Implants?

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Highlights of the Board Meeting and the Symposium of the International Dental Hygienists Federation June 29-30 – July 1 & 4, 1992 The Hague, The Netherlands

The Board Meeting

The following slate of officers were approved for the 1992-95 term:

President

Ruth Nowjack-Raymer (USA)

1st Vice-President

Inger-Lise Brythni (Norway)

2nd Vice-President

Til van der Sanden-Stoelinga (The Netherlands)

Secretary

Sue Lloyd (United Kingdom)

Treasurer

Eveline Gray
(United Kingdom)

Past-President

Patricia Johnson (Canada)

The name of the Federation has been rearranged to be the **International Federation of Dental Hygienists (IFDH)**.

The operational goals for the IFDH are:

- to increase public awareness of the role of the dental hygienist;
- to improve the financial and economical base of the IFDH; and
- to improve the support services of the IFDH.

Wilma Motley (USA), past-president of IFDH, and Jo Gardner (Canada) past-secretary/treasurer of IFDH, both received the first Life Membership Awards given by the IFDH in recognition of their commitment and work in developing the Federation to its international level.

South Africa, Colombia and Germany were all approved



Ruth Nowjack-Raymer (incoming president), Pat Johnston (outgoing president), Dr. David Barmes (WHO)



IFDH Board participants

for membership into the IFDH.

IFDH is entering a new phase of collaboration with the World Health Organization (WHO), and joint projects will be planned in the near future. The proposed area is to develop strategies towards the prevention and control of HIV/AIDS.

The 13th International Symposium on Dental Hygiene will be held in Tokyo, Japan, August 3-6, 1995.

On the social side – the IFDH directors were the guests of the Dutch Dental Hygienists Association for an evening dinner cruise on the canals of Amsterdam.

On July 1 – Canada Day – Pat Johnson, Jo Gardner, and IFDH directors, Ailsa Wood and Dale Scanlan, each bought a bottle of champagne and offered an orange juice and champagne toast to Canada. This “salute” took place at 8 a.m. (while Canadians in Canada were still sleeping!) All Board Meeting participants were present and took part in an enthusiastic rendition of “O Canada”.

The Symposium

Theme: The Dental Hygienist from Auxiliary to Colleague

The presentations were divided into three main categories, and each category was divided into Attitude – Role and Quality – Scientific Knowledge.

Category A – **The dental hygienist in relation to the patient** covered topics ranging from client-centred attitude, communication and behaviour management, to the patient's rights to proper care and education, including the patient/client's vision on health.

Category B – **The dental hygienist's interaction in a team of health professionals** included presentations on factors affecting the dental hygiene profession to the roles filled



CDHA President and President elect with American DH President. l to right L. Boomhour, F. Cotton, and Deborah Bailey McFall

by dental hygienists, i.e., team member, clinician, educator and administrator.

Category C – The dental hygienist in relation to politics and socio-economic structures discussed global trends on oral health and the experiences of dental hygienists around the world.

Of the 79 oral presentations and 25 poster sessions, Canadians presented 12 and 3 respectively.

There were over 600 registrants attending the scientific sessions, and approximately 750-900 people enjoyed the evening tour of "Floriade 1992" – the world horticultural exhibition held every ten years.

The Symposium was the perfect opportunity to enhance one's scientific knowledge, renew motivation, reinforce pride in the profession of dental hygiene, and last but not least to renew friendships from previous symposia!

We've Come A Long Way

by Ninfa Nicol, RDH, BA

I recently had the privilege of participating in the 12th International Symposium on Dental Hygiene in The Hague, Netherlands, July 1-4, 1992. Not only did I come away very proud to be a dental hygienist, but also to be a Canadian. It was exhilarating!

We've come a long way from being an auxiliary to becoming professional. The theme of the Symposium "From Auxiliary to Colleague" caused much discussion. But after listening to a number of the 100 papers given and participating in discussion during the seminars, there is no doubt in my mind that dental hygienists are professionals. We have a goal to work with our colleagues not only in our own profession but with all other professions to provide optimum health care to our patients.

The Symposium provided an excellent forum to meet dental hygienists from all around the world who were involved in education, private practice, consulting, dental

product marketing, community health, and many other areas. Each showed that the opportunity to expand into many different fields, upgrade and provide excellent care is there.



Ninfa Nicol and Esther Wilkins at the International Symposium in The Hague June-July, 1992

Canada had a representation to be proud of – there were approximately fifty-five of us – many of whom presented papers. The rooms where papers were given (see page 166 for a selection of Abstracts), were filled as hygienists showed their interest in bettering themselves and their profession. Dental hygienists from around the world, and especially the USA, were extremely interested in our progress with the enactment, in a number of provinces, of self-regulating legislation.

This Symposium would have appealed to all dental hygienists, and strongly emphasized the fact that we

should not sit back in our comfortable seats. Rather, we should get involved, participate and continue to upgrade and expand. We are Professionals!

Factors Determining the Outcome of Scaling and Root Planing

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1. Introduction

Scaling and root planing are the basic and predominant treatment techniques in periodontal therapy. Their objectives are removal of soft and hard deposits and altered cementum from exposed root surfaces.

According to the American Academy of Periodontology scaling is defined as instrumentation of the crown and root surfaces of the teeth to remove plaque, calculus, and stains from these surfaces. Root planing is defined as being a definitive treatment procedure designed to remove cementum or surface dentin that is rough, impregnated with calculus, or contaminated with toxins or microorganisms.

In the clinical situation, root surfaces to be treated are identified by subgingival probing of roughnesses, and therapy is terminated upon detection of disappearance of the roughnesses.

For centuries, scaling and root planing has been, and continues to be the most relevant part of periodontal therapy. Some of the first scalers were designed by Albucasis (936-1031), a surgeon of the Arabian school. Our knowledge of this type of therapy is based on research which began shortly after the turn of the century. The first relevant articles providing scientific information appeared in the early fifties. In the past four decades several aspects of scaling and root planing therapy have been investigated while others are virtually untouched. The purpose of the current review is to summarize today's knowledge in different areas of scaling and root planing, including some recent research findings, and to identify some pertinent unresolved problems.

2. The Root Surface in Periodontal Disease

The goal of investigations on the root surface in periodontal disease was to improve the understanding of the "hard tissue lesion" at the root surface, in order to plan the therapeutic changes necessary to make this surface biologically acceptable to cells which might attach to it during healing.

One of the pathologic root surface alterations was calculus, which attaches in different ways to the root surface: by means of an organic pellicle, penetration of calculus into cementum, mechanical locking into surface irregularities, such as resorption lacunae et cetera, and close adaption of the calculus to the sloping surface of unaltered cementum.^{1,2}

The cementum layer is the part of the root most often altered by attaching calculus, but also by microbial penetration.^{1,3,4} Selvig⁵ described changes in root surfaces exposed

to periodontitis and the oral cavity. Four patterns of root surface and cementum alterations were described, namely normal areas, areas with decreased radioopacity, areas of partial decalcification with normal contour, and areas with increased mineralization. These microscopic changes could reflect lower biocompatibility of the root surface due to chemical alterations.

Periodontally involved root surfaces have been shown to be cytotoxic.⁶ In tissue culture, cells exposed to periodontitis affected roots suffered irreversible morphologic changes, while normal roots did not affect the viability of the cells in culture. There had to be a toxic factor. Bacterial endotoxin was taken into consideration, and it has later been detected in cementum.⁷ Even gram-negative subgingival bacteria from which this endotoxin originates were found deep in the cementum at the cemento-dentinal junction.³ Endotoxin could be extracted using phenol-water from normal looking root surfaces, rendering them biocompatible. It was then shown that mechanical removal of cementum permitted cultured gingival fibroblasts to attach.⁸ It appeared from these studies that endotoxin had to be removed to make cell attachment to the root surface possible, either by removing it from the cementum, or by removing the cementum itself.

Proof that root planing in periodontitis patients can render diseased root surfaces free of endotoxin came from Jones.⁹ A total of 48 periodontally involved roots were root planed in vivo on the mesial aspect until the root surface felt hard, smooth and glass-like. After completion of instrumentation the teeth were extracted. A total of 50 untreated root surfaces, previously exposed to periodontitis, served as diseased controls, while 50 impacted wisdom teeth served as healthy uninvolved controls. Root surface chips were obtained from all these surfaces for assessing endotoxin levels. In untreated periodontitis teeth scaling alone resulted in root surface endotoxin values considerably greater than in healthy teeth. However, the total endotoxin-level in the 48 root-planed teeth was only 1 ng higher than in healthy root surfaces. This minimal difference in endotoxin compared to healthy unerupted teeth suggests that root planing is able to render diseased root surfaces as free of endotoxin as unerupted teeth.

Cementum-associated lipopolysaccharides (LPS), endotoxin, was detected on the cementum surface which had been previously exposed to a periodontal pocket, but not in subsurface cementum.^{10,11} It was concluded that extensive removal of sub-surface cementum might not be necessary in order to render root surfaces free of bacterial endotoxins.

This conclusion was confirmed by an in vitro investigation which determined the detoxifying effects of ultrasonic root debridement. The authors found after treatment endotoxin (LPS) levels comparable to healthy uninvolved control teeth.¹² These results reinforced the growing belief that root

surface cleanliness can be achieved without sacrificing large amounts of root substance.

3. Studies on Effect of In Vivo Scaling and Root Planing

These studies evaluated the effectiveness of in vivo scaling and root planing after extraction of the treated teeth. The main goal was to find out if scaling and root planing could produce root surfaces completely free of deposits.

Schaffer¹³ instrumented 18 teeth with pocket depths ranging from 2 to 7 mm. Using the light microscope he showed that calculus remained on many root surfaces. In another study, instrumentation of 48 periodontally involved proximal root surfaces with hand curets,⁹ left nine of these teeth (18.75 per cent) with residual calculus.

Waerhaug¹⁴ treated 31 periodontally involved teeth with hoes, curets and occasionally rotating diamond instruments prior to extraction. After extraction the teeth were stained with toluidine blue to visualize remaining plaque on the root surfaces. The stereomicroscope was used for evaluation. Only 4 of 31 teeth had all four root surfaces free of plaque, and 6 of the 31 teeth had none of the four surfaces free of plaque and calculus. Waerhaug stated that the probability for success in total removal of deposits was good in pockets less deep than 3 mm, and that failure was more likely than success in 3-5 mm deep pockets, while failure dominated in pockets deeper than 5 mm.

Rabbani et al¹⁵ scaled and root planed all four surfaces of 62 teeth. Immediately after treatment the teeth were extracted, washed, stained with methylene blue, and examined under a stereomicroscope. The percentage of surfaces covered by calculus was assessed. There was a strong correlation between residual calculus and pocket depth. Pockets less deep than 3 mm were easiest, pockets between 3 and 5 mm were more difficult, and pockets deeper than 5 mm were most difficult to scale and root plane.

In a recent study 25 molars were scaled and root planed.¹⁶ Twelve teeth were scaled by experienced periodontists, while 13 were instrumented by periodontal residents with less experience. Following treatment the teeth were extracted and scored for residual calculus. Operators with more experience achieved calculus-free surfaces significantly more often than operators with less experience. In the furcation aspects of the roots the more experienced operators obtained calculus-free surfaces only 44 per cent of the time, and less experienced therapists only 8 per cent of the time. The authors concluded that total calculus removal in furcations using conventional instrumentation is limited.

Sherman et al investigated the effectiveness of subgingival scaling and root planing.¹⁷ One hundred and one teeth were extracted after instrumentation. The 476 instrumented root surfaces were evaluated for the presence of remaining calculus using the stereomicroscope, and for the surface area with calculus using computerized image analysis. Residual calculus was present in 57 per cent of all surfaces, and on 3.1 per cent of the surface areas. 77.4 per cent of the root surfaces

with microscopic calculus were clinically scored as being free of calculus. From these results it appeared that complete calculus removal is difficult to achieve, and that the clinical determination of remaining calculus misrepresents the nature of the instrumented root surfaces.

Kepic et al¹⁸ assessed completeness of calculus removal after scaling and root planing in periodontal pockets, followed by instrumentation after flap elevation. Seventeen teeth were treated with hand instruments, 14 teeth with an ultrasonic instrument. Remaining calculus was identified by light microscopic evaluation. Twelve of the 17 teeth treated by hand instruments, and 12 of the 14 teeth treated with ultrasonics retained calculus.

It appears from the results of these studies that scaling and root planing is most effective in removing root surface deposits in shallow pockets, and less effective in deeper pockets and furcations.

4. Clinical Effects of Scaling and Root Planing

Several studies indicate that, although root surface debridement is seldom complete after scaling and root planing, the clinical effects are beneficial.

Short-term studies (1-2 months)

The beneficial clinical effects of scaling and root planing are enhanced by routine oral hygiene procedures.^{19,29,21} Bleeding, pocket depth and probing attachment loss are reduced at 1 and 2 months after scaling and root planing both with hand and ultrasonic instruments.

Intermediate-term studies (2-24 months)

Scaling and root planing provide substantial improvement of bleeding scores, probing depth and attachment levels even after preceding plaque control measures of several months.²² These effects occur mainly in pockets initially 4 mm or more in depth. Scaling and root planing seem to improve the clinical parameters as effectively as gingival curettage.^{23,24}

The effect of supra- and subgingival debridement and oral hygiene measures on moderate to deep pockets in non-molar teeth were reductions in gingival bleeding and probing depth, and gain in probing attachment levels. The results were similar for ultrasonic and hand instrumentation for different operators and for single and repeated instrumentation.^{23,25,26}

Scaling and root planing, when administered prior to surgical procedures, provide the main reduction in pocket depth as assessed after surgery at an initial depth of 4-6 mm.²⁷ Only in pockets of 7 mm or more could pocket elimination surgery provide greater pocket reduction. Maintenance results were the same for scaling and root planing alone and in combination with surgery.

Results from other studies confirmed²⁸ that scaling and root planing leads to healthy gingiva and prevention of further attachment loss as well as the modified Widman flap.

Long-term studies (longer than 24 months)

It was shown that moderate and deep pockets can be reduced and maintained after scaling and root planing with curettage alone as well as with modified Widman flap or pocket elimination surgery.²⁹ However, the effect on sites not responding to therapy was not explained in detail.

Even over 22 years the results of periodontal therapy by scaling and root planing seemed not to differ in effect from other types of therapy, when measured by the mean tooth loss.^{30,31}

One study³² demonstrated greater attachment gain in pockets of 4-6 mm with scaling and root planing as compared to the modified Widman flap. Pocket depth reduction was similar. In pockets initially 7 mm or deeper attachment gain was similar with both procedures.

It appeared from these studies that the results of periodontal therapy depend mainly on proper debridement of the root surface and that scaling and root planing produced clinical results very similar to surgical treatment effects.

Despite the good clinical results confirmed by numerous longitudinal studies, many aspects of scaling and root planing need improvement. The fact that beneficial clinical treatment results can be achieved with currently available instrumentation techniques should not blind the profession to the many areas with potential for improvement.

5. The Instruments

The histologic and clinical investigations of scaling and root planing are the most essential for clarifying healing responses to therapy. However, there are many instrument related aspects which need to be considered and investigated, because they directly affect the results obtained.

5.1 Size and Shape of Instrument

All designs of scalers and curets are several decades old, except for some instruments which have been designed recently. These designs have been generated at a time when many anatomical aspects of the teeth and the marginal periodontium were not yet known in detail as they are today. Consequently, there are reports on discrepancies between design and size of scaler and curet working ends, and the size of pockets, interradicular areas et cetera.

Macroscopic and microscopic studies on the dimensional relationships between instruments for root planing and periodontal structures³³ discovered disproportions between the instrument size relative to the periodontal pocket. Consequently working end designs were modified in hoes, files and scalers.

These dimensional discrepancies are striking at the buccal furcation entrance of first maxillary and mandibular molars, which are narrower than the width of Gracey curet working ends in the majority of cases.³⁴ Consequently, these areas cannot be debrided, unless these furcations are made accessible to the curets by selectively reshaping the furcation entrance with rotating diamonds. Figure 1 shows a cross-section of a molar apical to the furcation entrance. Note how

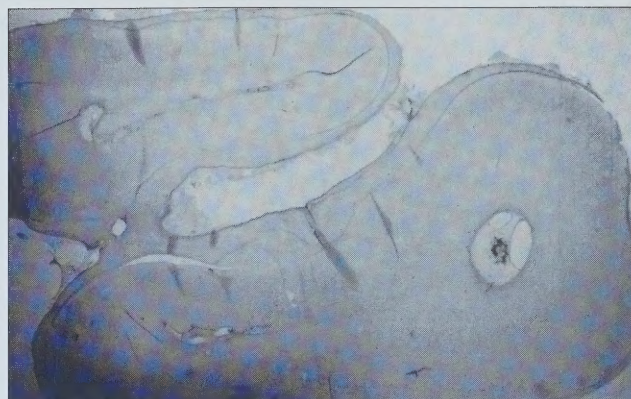


Figure 1

close the roots approximate, preventing access of curets.

The therapist must be aware of shortcomings in instrument design. Where necessary, these problems need to be overcome by skill of the operator and alterations to root surface anatomy.

5.2 Dulling of Scalers and Curets

During root planing, there is measurable dulling of the cutting edge of curets. Significant edge deformation is measurable after 15 working strokes, and this deformation increases significantly up to 45 strokes, with levels at the former cutting edge wider than 15 microns.³⁵ High carbon steel curets seem to be more resistant to wear than stainless steel curets.³⁶ Dull instruments could lead to burnishing rather than removal of root surface deposits.

The method of resharpener cutting edges seems to determine the quality of the cutting edge obtained.³⁷ The meaning of these different cutting edge qualities for the outcome of root instrumentation has never been demonstrated. The continuous resharpener with removal of working end substance reduces the strength of periodontal scaling instruments up to 50 per cent,³⁸ leading eventually to instrument fractures during treatment.

Parkes and Kolstad³⁹ demonstrated that repeated sterilization of curets causes oxidation and dulling in carbon steel instruments when using saturated steam sterilization. Therefore even unused instruments can be dull after resterilization of a partly used instrument set.

Taken together, the potential for dulling of curets is obvious. However, the role of this unwanted change in cutting edge characteristics for the outcome of scaling and root planing has not been investigated.

6. Calculus Removal by Ultrasonic and Manual Instrumentation

In the fifties, the advent of ultrasonic curets was perceived as a technical revolution in periodontics. The initial euphoria subsided under the impression of the results described below.

Stendhe and Schaffer⁴⁰ compared the effectiveness of ultrasonic with hand instrumentation. Seventy-five teeth

were treated with the ultrasonic device and 75 teeth with hand curets. There were no differences between the two methods in calculus removal. However, the ultrasonic device did not plane root surfaces.

Moskow and Bressman⁴¹ treated 95 teeth with hand or with ultrasonic instruments prior to extraction. The stereomicroscope was used to evaluate the root surfaces for residual calculus. The ultrasonic instrument left calculus in 10 of 53 surfaces, while the hand instruments left calculus in 5 of 42 teeth. Even though both instruments were effective for calculus removal, the hand instruments were clearly better.

The efficiency of hand curets and ultrasonic curets was compared by treating periodontally involved teeth with each instrument prior to extraction.⁴² Examination of the extracted teeth using a scanning electron microscope showed considerable amounts of burnished calculus in areas which were clinically "smooth". Calculus was removed in only 26 of 54 teeth. Ultrasonic instrumentation either left the calculus intact or dislodged it, while curets fractured off part or all of the calculus.

Nishimine and O'Leary⁴³ treated 46 teeth with hand instruments and 46 comparable teeth with an ultrasonic instrument. Ten (21.0 per cent) of the hand instrumented and 13 (30.0 per cent) of the ultrasonically treated teeth had residual calculus deposits.

From the results of these studies it appears that hand instrumentation removes calculus more thoroughly than ultrasonic instrumentation.

7. Smoothness of Root Surfaces Following Instrumentation

The results of studies evaluating root surface smoothness after hand and ultrasonic scaling are somewhat conflicting. One of the reasons is that the criteria for evaluation of root surface smoothness are not defined well enough.

Belting and Spjut⁴⁴ used 103 single rooted teeth to compare the effects of a high speed ultrasonic prophylaxis unit, hand curet, a six sided rotary instrument and a vibratory air activated handpiece. After instrumentation the teeth were extracted and evaluated for root surface characteristics and the extent of root substance removal on histological sections. High speed periodontal instruments had much greater potential for causing damage to the root surface than did hand curets. The ultrasonic curet produced a stippled root surface, the rotary and vibratory instruments resulted in a ledged root surface. The hand curet produced a smooth surface and caused the lowest surface loss.

Kerry⁴⁵ used 180 periodontally involved maxillary non-molar teeth for comparison of root surface roughness after the use of ultrasonic curets and hand curets separately or in combination. After instrumentation the teeth were extracted and their surface roughness evaluated using a profilometer. The hand curet provided consistently smoother surfaces than the ultrasonic curets.

Meyer and Lie⁴⁷ studied root surface roughness in response to periodontal instrumentation by combined use of micro-

roughness measurements and scanning electron microscopy. The instruments used were a Gracey hand curet, an ultrasonic curet, and rotating diamond or Roto-Pro points. The hand curet produced the least roughness, followed by the Roto-Pro instrument, while the ultrasonic curet and the diamond left the most uneven surfaces. The authors emphasized that after hand instrumentation a smeared surface structure was more frequently seen.

Topoll et al⁴⁷ showed that hand instrumentation, combined with subsequent polishing leads to the smoothest root surfaces when compared with ultrasonic curets.

From these studies it became obvious that the hand curet is the instrument of choice for production of a smooth root surface.

8. The Smear Layer

A smear layer tends to coat a scaled and root planed root surface and not native dentin.

Characterization of a dentin surface after cementum removal by root planing reported that a surface "smear" layer was common.⁴² The amorphous, irregular surface on root-planed teeth may represent this smear layer. A smear layer of microcrystalline debris,^{48,49} has also been referred to as the layer of grinding debris produced during cavity preparation.^{50,51} During cavity preparation the smear layer is formed on the dentin walls⁵⁰ regardless of the method or equipment used,⁵² and occludes the dentinal tubule apertures. The layer, 2-15 μm in thickness,^{48,50} consists of organic and inorganic material, with particles varying in size from less than 1 μm to more than 15 μm .⁵² The smear layer is intimately associated with the tooth surface and can only be successfully removed by demineralizing solutions.⁵⁰

After removal of exposed cementum by root planing, it is most likely that a smear layer remains apposed against the soft connective tissue rather than a *de novo* dentin surface. Since this tenacious layer is not removed by rinsing,^{50,52} the subsequent tissue response will relate to the biological characteristics of the smear layer. Therefore, healing results of scaling and root planing may be determined by the smear layer, and not necessarily by a native dentin surface.

9. Use of Chemical Agents

Chemical agents are used after scaling and root planing in an attempt to complement instrumentation, and to remove the smear layer. Agents such as sodium hypochloride and citric acid have been used as organic solvents for chemical curettage.⁵⁴ However, evidence suggests that this treatment does not improve healing.⁵⁵

The results of citric acid application to promote new connective tissue attachment are conflicting. While animal studies documented enhanced cementum and new connective tissue attachment formation,^{56,57} human studies showed only little to no effect.^{58,59,60} The main effect of these and other substances^{53,61,62} is probably to detoxify and debride the root surface, and to expose collagen fibrils of organic matrix. Taken together, there is no convincing evidence suggesting

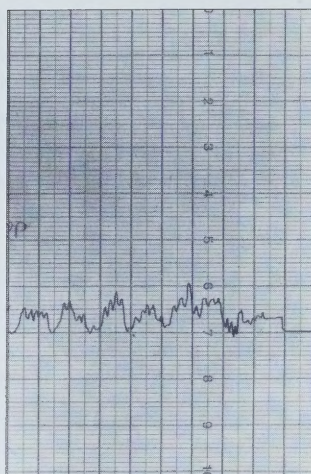


Figure 2

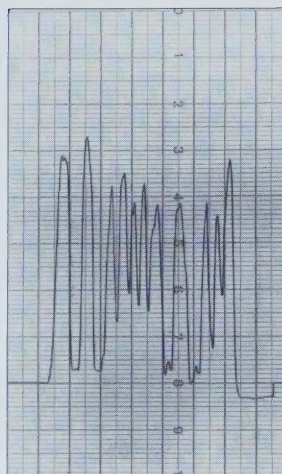


Figure 3

that chemical modification of root surfaces on a routine basis improves healing results.

10. The Therapist

Little is known about differences in skill levels among therapists relative to the results of scaling and root planing. It has been shown that the clinical results of scaling and root planing do not vary with different therapists.²⁵ However, there have been virtually no attempts in the past to evaluate the "therapist factor" and its potential role for the effects of scaling and root planing. Ideally, each therapist should deliver a kind and amount of therapy commensurate with the lesion to be treated. In relation to periodontitis affected and calculus bearing roots very little is known on the instrumentation doses needed to obtain the therapeutic result required.

In scaling and root planing shearing forces are used to cut off the calculus. It is known from the mechanical sciences that the amount of material sheared off depends on the instrument angle, the force applied, the material worked on and the sharpness of the instrument. While there is extensive knowledge about the nature of calculus and root surface and the angle of the cutting edges, information on forces used is minimal.

Recently, laboratory studies have been able to measure the forces used by 20 therapists during scaling and root planing of incisors.⁶³ Ten dentists and 10 dental hygienists scaled and root planed one aspect of an incisor with moderate periodontitis in an adult patient. During scaling and root planing the magnitude of forces was recorded. The results showed that the scaling and root planing forces varied largely between therapists. The lowest scaling force in dentists was 1.01 N, the highest 10.35 N. In dental hygienists, the lowest force was 1.52 N, the highest 15.73 N. A similar range of forces was found in dentists (0.86-8.88 N) and dental hygienists (1.56-10.59 N) during root planing. Figure 2 shows the force recording during root planing from a typical "high force" therapist, while Figure 3 shows a recording from a "low force" therapist. Since all treated root surfaces were selected for similar roughness, this pronounced variation in forces is

most likely due to the fact that therapists seem to work at specific force levels.

In fact, a subsequent analysis showed that these individual force levels were maintained by each therapist during the entire scaling and root planing. For the number of working strokes, similar diverse numbers were found across the therapists.

Another even more dramatic finding was made: For some therapists, forces directed towards adjacent soft tissues were recorded. This explains why after scaling and root planing attachment loss can occur, especially in shallow pockets.^{23,27,32}

11a Cementum Removal by Scaling and Root Planing

Removal of the exposed cementum has been recommended^{64,65,66} and allows fibroblasts to adhere to previously diseased and non-diseased areas of the roots.^{7,8} Complete removal of the hypermineralized zone of the root surface seems to be essential for the healing process.^{67,68,69}

In contrast, results from recent investigations have suggested that cementum removal is not an absolute prerequisite for satisfactory clinical healing.^{70,71} However, these results should not be misinterpreted to mean that less than thorough instrumentation is sufficient in a clinical situation.

O'Leary and Kafrawy⁷² studied whether total cementum removal from periodontally involved root surfaces was a clinically realistic objective. Thirty-six periodontally involved and extracted teeth were used. All visible calculus was removed prior to treating the root surfaces with 50 planing strokes. On 7 μ histological sections the extent of cementum removal was studied. All cementum had been removed in the test areas. However, the authors had no record of the original cementum thickness or what forces were applied. In areas of total cementum removal dentine must have been removed to various extents.

Borghetti et al⁷³ tried to determine histologically the effect of in vivo root planing on the thickness of cementum. Four periodontally involved teeth scheduled for extraction were used. The teeth originated from two patients. Before extraction all surfaces were root planed. The instruments were moved "vigorously" and with "firm pressure". The number of working strokes was varied between 1 and 4 per root surface. The teeth were then extracted and histologically processed. The results showed that cementum was never completely removed. The authors concluded that "identical" root planing may not produce identical results. However, original cementum thickness and root planing forces applied were not known.

Van Volkinburg et al evaluated root surfaces after instrumentation with various instruments in vitro.⁷⁴ The standard to be reached was the smoothest possible root surface. Evaluation of the treated teeth was done using a profilometer and SEM to evaluate surface characteristics, while histologic sections were used to assess extent of cementum removal by the different instruments. In relation to cementum removal there were no consistent patterns. Areas with and areas without residual cementum could be found. In this study the

original thickness of cementum, tooth type, age of patients (continuous cementum apposition), time of instrumentation, number of working strokes et cetera was not assessed. Therefore these results are inconclusive in relation to appropriate management of periodontally involved root surfaces.

The depth of root surface removal using curets with a definite number of working strokes and known forces was assessed in vitro.⁷⁵ On histological sections the amount of remaining cementum was assessed, and the original cementum thickness was estimated. Cementum was completely removed after 20-70 strokes. Total root substance removal was estimated, but not measured in the area of instrumentation.

11b Root Substance Removal by Scaling and Root Planing

Despite the studies mentioned above, there was a complete lack of information about how much root substance is actually removed by a given number of working strokes at a specific force level. A study completed by the authors⁷⁶ provided some information on this topic.

Forty extracted teeth with loss of connective tissue attachment into the middle third of the roots were washed and embedded in plaster, leaving one entire corono-apical tooth aspect exposed. The teeth were held in a bench-vise while 40 working strokes were applied. Forces were recorded during instrumentation of 30 teeth with low forces and 10 with high forces. A profilometer was used to repeatedly measure the root substance loss occurring with increasing numbers of strokes.

The mean low force and mean high force were 3.04 N and 8.48 N, respectively. Mean root substance loss after 40 working strokes at low forces was 148.7 microns, and 343.3 microns at high forces.

Root substance removal per stroke during strokes 1-5 was 6.8 microns at low forces, and 20.6 microns at high forces. During strokes 21-40 removal per stroke was 2.3 microns at low forces, and 5.6 microns at high forces. Since the therapist force remained at the same level during instrumentation, the lower substance removal per stroke at higher stroke numbers was most likely due to dulling of the curets.

In summary, these force measurements and root substance removal results suggest that a given patient can eventually be treated by a high or a low force therapist, and that his teeth will lose a lot or little root substance by instrumentation. Apparently there is at present a dramatic lack of information on how much scaling and root planing therapy a given root surface needs and receives.

12. Opened Questions

Given the information on cementum described above it becomes clear that several problems are not resolved.

Total cementum removal has been recommended as one of the goals of scaling and root planing. This leads to exposure of root dentine. Up to the present there are no studies providing the necessary information on how to dose this type of therapy. In periodontics, the principle that any therapy in medicine has to be adjusted in dose to the severity and char-

acter of the disease to be cured, has been neglected. Root planing is performed until root surfaces are smooth, as determined by the tactile sensitivity of the therapist. In achieving this, considerable amounts of root dentine may be sacrificed, leading to side-effects such as root sensitivity.

Today's knowledge of tooth aspect specific root planing doses is virtually nonexistent, despite the fact that there are solid indications that cementum thickness varies largely on different aspects of the root.

The root planing dose – tooth type and tooth aspect specific – needs to be determined. This would lead to the possibility of applying a differentiated type of therapy rather than a potential overtreatment of periodontally involved roots.

13. Summary and Conclusions

Scaling and root planing are the predominant and recognized forms of periodontal therapy. They have been known for centuries, and have been investigated with increasing intensity since the turn of the century. Scaling and root planing aim at therapeutic changes of the "hard tissue lesion" at the root surface, in order to render it biologically acceptable to cells capable of attaching to it.

Two major components of these root surface alterations are calculus and cementum alterations.

Numerous studies have shown that scaling and root planing effectively removes subgingival deposits, and that this removal is seldom complete in deeper pockets. Even though beneficial clinical effects of scaling and root planing have been shown, it is unlikely that the full potential of healing is utilized today due to technical shortcomings.

Several studies have shown that the design and dimensions of curets as used today are not optimal. These instruments are for many situations too big, subject to rapid dulling, and produce a smear layer. Chemical agents have been used to remove this layer with limited success.

The therapist is a virtually unknown factor in the system of delivering scaling and root planing. A recent study showed that scaling and root planing forces used by different therapists on similar root surfaces varied by factors greater than 10. In addition, higher forces were shown to remove significantly more root substance. Apparently there is a large subjective component included in the delivery of scaling and root planing therapy.

Even though scaling and root planing have been shown to be effective therapeutic procedures, many aspects require more research.

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Dental Management of the Patient with ESRD



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Introduction

"Renal failure occurs when there is a decrease in the kidney's ability to excrete normally produced metabolic end products and to maintain acid-base, fluid and electrolyte balance."¹ This dysfunction is caused by glomerular and/or tubular disease states such as diabetes, hypertension, autoimmune disorders, renal toxins, ischemia, obstruction of the urinary tract, polycystic kidneys and acute and chronic polynephritis. Although renal failure can occur as a consequence of an acute episode, characteristically the date of onset is often not known because the patient is asymptomatic until the signs of chronic renal failure begin.

"ESRD (end-stage renal disease or chronic renal failure) is a bilateral, progressive and chronic deterioration of nephrons (of the kidney) that results in uremia and ultimately leads to death."² In 1987, there were 965 deaths in Canada resulting from ESRD.³ This disease, a multisystemic process, affects metabolic, excretory, and endocrine functions of the body, as well as many organ systems. Generally, patients with ESRD are treated either by hemodialysis and/or kidney transplantation. This paper will discuss signs and symptoms of ESRD, complications of the disease, and the two major medical treatments. Dental management and treatment of the patient with ESRD will be emphasized.

Signs and Symptoms

"Clinical evidence of this disease state may not manifest itself until 75 per cent of the nephrons have been destroyed."⁴ The progression of renal failure is so insidious that the patient may not be aware that he does not feel as well as he did months or years before. The usual first symptoms for which the patient seeks medical advice include: headache; anorexia; edema of the extremities; easy bruising; and fatigue. Because certain normal renal adaptations may minimize the impact of the loss of renal function, chronic renal failure may be present on the first visit to the doctor.¹

The signs and symptoms of ESRD are seen in many of the body's organ systems. They result from the retention of metabolic wastes and a severe fluid and electrolyte imbalance.

The major indicators of the severity of the renal failure are the levels of urea and creatinine in the blood and urine. "Urea and creatinine rise (in the blood) in direct proportion of the fall in the GFR (glomerular filtration rate)."¹ "Because of creatinine's constant production, it is the most significant indicator of kidney disease."⁵ The level of urea, however, is affected by protein intake and tissue breakdown.⁵

As the disease progresses, the signs and symptoms that may be observed include: decreased urinary output; hypertension; vomiting; diarrhea; malnutrition; stomatitis, parotitis; ammonia-like odour to the breath; and hyperpigmentation of skin. In the later stages of ESRD, uremic frost, pruritus, peripheral neuropathy, hemorrhagic episodes, cardiovascular disorders, mental slowness or depression, muscular hyperactivity and possible convulsions, are typical symptoms. The patient gradually becomes more and more drowsy. Coma and death are imminent if treatment is not initiated.

Complications

Complications, whether minimally or maximally expressed, cause the patient distress and discomfort. The physical complications usually involve electrolyte and acid-base imbalances which cause many disruptions of the normal bodily functions. One of the most common complications of ESRD is an abnormality of the sodium and fluid balance. "... With a marked decrease in both urine volume and sodium excretion, retention of salt and water may occur, resulting in (fluid) volume overload, congestive heart failure, and hypertension."⁶ Metabolic acidosis, resulting from the accumulation of waste products and decreased excretion of hydrogen ions, causes nausea, anorexia, fatigue, and hyperventilation.² Also, the impaired kidneys are unable to excrete normal amounts of potassium. The resulting hyperkalemia may cause cardiac problems and death.⁶

The increase in phosphate levels and decrease in calcium levels in the blood of the ESRD patients stimulate the secretion of the parathyroid hormone. This secondary hyperparathyroidism causes an increased bone reabsorption and formation of bone cysts (renal osteodystrophy). As the bone changes worsen, the patient may experience bone pain, spontaneous fractures, aseptic necrosis of the hip, and extrasosseous calcification. The effects of the hyperparathyroidism is also seen in dental radiographic findings which show loss of bone density, loss of lamina dura, and radiolucent cyst-like lesions of the maxilla and mandible.^{4,7}

Anemia, another common manifestation of ESRD, is caused by the decreased production of erythropoietin by the kidney. Erythropoietin is a necessary component for the production of red blood cells by the bone marrow. Blood loss from the gastrointestinal tract and other sites also contribute to the anemia.⁵

Oral manifestations related to the condition include oral ulcerations, candidiasis, and parotitis.⁸ Other disorders such as xerostomia or gingivitis may also occur.

Other complications exhibited by ESRD patients may include altered immune response and increased susceptibility to infection which is related to a decreased ability of leukocytes to kill bacteria; hemorrhagic tendencies related to platelet dysfunction; and glucose intolerance. When the complications of ESRD become life-threatening, the patient will be treated by hemodialysis and/or kidney transplantation.

Treatment by Hemodialysis

Hemodialysis is the artificial filtering of the blood. It involves the surgical creation of a subcutaneous arteriovenous fistula which is accessible to venipuncture. The person is virtually "plugged into" the hemodialysis machine at the fistula site. The blood is pumped into the machine by the patient's blood pressure, filtered, and returned to the person. Heparin is administered during the procedure to prevent clotting of the blood. Hemodialysis treatments are performed every 2 to 3 days for 3 to 5 hours at a time depending on the patient's need.

This form of treatment is not without its problems. The complications which arise from the procedure can be fatal. The patients, who received multiple blood transfusions before the introduction of mandatory donor screening, are at a high risk of contracting hepatitis B and AIDS. Infections of the arteriovenous fistula are common and often fatal. Drugs, such as phenacetin, tetracycline, and acetaminophen, that are metabolized primarily by the kidney need to be avoided. Also, these patients have bleeding tendencies which must be identified and controlled. When dental care is necessary, these complications of treatment by hemodialysis must be considered.

Treatment by Kidney Transplant

Kidney transplants, from either a living or deceased donor, are fast becoming a successful and more readily accepted choice of treatment for ESRD.² Not only are these patients no longer "tied" to their dialysis machine, but the metabolic abnormalities associated with ESRD are completely reversed. Kidney transplantation, like hemodialysis, has its own associated problems.

The major complication in patients with kidney transplants is the possibility of graft rejection. Several methods are available to suppress rejection, e.g. immunosuppressive chemotherapy, local radiation therapy, and antilymphocyte globulin. The favoured method is immunosuppressive chemotherapy.² These drugs cause problems of increased susceptibility to infection, poor wound healing, and a dry mouth. Also, steroids can cause a decrease in adrenal function which, in turn, decreases endogenous cortisol production. These complications are important when considering dental management and treatment for ESRD patients treated with a kidney transplant.

Dental Management and Treatment

Consideration of dental management and treatment for ESRD patients is essential. Consultation with the patient's physician is mandatory and is the first step when attempting to improve the patient's oral health. If the disease is poorly controlled or in the advanced stages of renal failure, dental treatment should be avoided. The physician may suggest presurgical screening for bleeding disorders, antibiotic prophylaxis, screening for Hepatitis B antigens and AIDS prior to treatment, and hospitalization for severe infections or major procedures.

The blood pressure of these patients should be closely monitored during each visit. Bleeding tendencies may dictate meticulous atraumatic surgical techniques.⁴ Dental hygiene care, extensive restorative or reconstructive work should be performed on the day following hemodialysis treatment.⁴ Also, the dental team should avoid prescribing drugs that are metabolized by the kidney or that are nephrotoxic such as phenacetin, tetracycline, acetaminophen, and certain antibiotics (polymyxin, neomycin, sulfonamides) for patients with severe renal failure. Local anesthetics of amide type are metabolized by the kidney and will remain in the circulation longer.⁹

ESRD patients with metabolic acidosis tend to hyperventilate. To assist these patients, the dental office should be equipped with an oxygen tank. The dental team should also be certified in both CPR and First Aid in order to deal with emergencies.

The dental hygienist's role becomes very intricate when planning treatment for ESRD patients. The patient's mental state should be of concern. The hygienist should provide extensive emotional support and a stress reduced environment. The patient who has had a kidney transplant should be advised to double the normal dosage of steroids the day before and the day after the surgical procedure. This will allow the patient's body to better cope with the stress of the procedure.

The dental hygienist's treatment plan can include: hard tissue charting; probing; oral hygiene instruction; scaling; polishing; and a fluoride treatment. The plan should be individualized to include special products or programs depending on the patient's need, e.g. saliva substitutes, nutritional counselling, fluoride home care.

A typical dental hygiene treatment plan for a patient with ESRD might include:

- For ESRD patients who experience vomiting, rinsing the mouth is recommended to decrease the level of gastric hydrochloric acid in the mouth, the chemical erosion, and the hypersensitivity of the teeth. The dental hygienist should suggest a home rinse program, or recommend rinsing the mouth with water or bicarbonate of soda after vomiting. Toothbrushing after vomiting should be avoided because it tends to increase the eroding effect on the teeth.

- The anorexic patients should have some nutritional counselling to help them overcome some of their nutrition problems or be referred to a dietician.
- Most ESRD patients require several types of medication to sustain life. Unfortunately, these drugs can cause xerostomia and gingivitis. To diminish these complications and reduce susceptibility to infection, a saliva substitute and a strict oral hygiene home care program are advocated.
- ESRD patients have poor wound healing and are susceptible to infection. Therefore, quadrant to quadrant scaling is appropriate.
- Bleeding resulting from platelet dysfunction is an important consideration. Meticulous scaling procedures are recommended.
- Recall appointments should be scheduled every three months.

Conclusion

Effective dental hygiene care can be provided for ESRD patients. The dental hygienist has a responsibility to consider the sign and symptoms, complications and the method of treatment of each patient with ESRD. The relationship between the hygienist and each patient involves trust and rapport in order to enhance patient compliance. Essentially, the ESRD patient is an individual who has some unique considerations which require special attention when developing a dental hygiene treatment plan.

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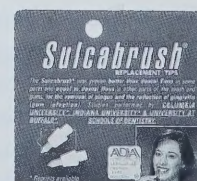
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Alternatives in Dental Hygiene Practice



*Brenda Walker, RDH,
Executive Director/Registrar,
Alberta Dental Hygienists
Association.*

Introduction

With the proclamation of the *Dental Disciplines Act* on November 1, 1990, dental hygienists in Alberta became self-regulating. It was necessary to make the transition from a volunteer based society to a corporation requiring full-time staff and a permanent office that was accessible to both association members and the public. My appointment as Executive Director/Registrar was confirmed on June 22, 1991. My task was to establish the ADHA office.

Personal background

Following graduation from the University of Alberta in 1971, my first position with ADHA was as Treasurer for the 1973-74 term of office. I was initially in awe of the dedicated Board members that I was elected to work alongside. In time, these same people became mentors and valued friends. Over the years I continued to hold numerous executive and committee positions in the ADHA. There is no doubt that the combination of these positions, the full- or part-time clinical practice that I maintained over twenty years, the 15 years of part-time clinical teaching at the University of Alberta, and a partnership in small business, have each provided me with unique experiences and networks that

allowed me to accept the challenging position of Executive Director/Registrar with only slight trepidation.

Responsibilities

The ADHA holds the dual responsibility of being the professional advocacy body, as well as the regulatory body, for dental hygiene in Alberta. My position is also a dual one. I act as Executive Director of the professional association, and as Registrar of the regulatory body.

As Executive Director I am responsible for the management and administrative functions of the Association, including recommendations regarding policies and procedures, financial and legal matters, and staff supervision. In conjunction with the President, I represent ADHA to the public, the government, the university and to other professional bodies.

In my role as Registrar I am responsible for the registration process, maintenance of registers, issuance of documents and co-ordination of disciplinary actions, all in the interest of public protection. I must maintain liaison with the provincial department responsible for the administration of the *Dental Disciplines Act*, as well as with CDHA and other professional organizations as required.

Conclusion

As I begin the second year of my appointment, I do not regret having left the secure familiarity of clinical practice and teaching. The challenges of this position are often as exhilarating as they are exhausting. I have been fortunate to develop an excellent support system with the registrars of several other professional regulatory bodies in Alberta. However, I look forward to the day when Monique Goudreault, Executive Director of the Corporation des hygienistes dentaires du Quebec, and I have counterparts in each province across Canada. I hope also that we will be afforded the opportunity to meet and share our concerns and goals for the regulation of the profession of dental hygiene.

1992-1993 Membership

Membership information was mailed in September. If you do not receive your application, or for further information, please contact CDHA Membership Line 1-800-267-5235

Notes on the Supply and Demand for Dental Hygienists



Dianne E. Bascombe, M.A.

The Canadian Dental Hygienists' Association has long taken an interest in issues around human resource planning for dental personnel. Within the regulatory structure of Canadian health care professionals, the conditions of licensure affect the labour force of professionals eligible to practice. The Practice and Regulation Council takes an active role in monitoring provincial licensing standards, educational requirements and information on human resource planning in dental hygiene.

This article discusses some of the issues in human resource planning for dental hygiene. There is no conclusive method of determining supply and demand for health professionals. Access to care, service delivery models and patient health care needs cannot be left out of the equation making accurate predictions difficult if not impossible.

Supply of Labour

In 1987 the CDHA participated in the funding of a supply-side study of dental hygiene in Canada. An extensive baseline data set was established and analyzed in the report by Patricia Johnson¹. This report outlines the socio-economic profile of dental hygienists in Canada, including descriptions of basic personal data, education, employment and patterns of practice.

This supply-side data gives a detailed snapshot of dental hygienists in Canada in 1987 which can be used as a tool in human resource planning. The degree to which this data can be extrapolated is dependent upon the availability and quality of subsequent data. In addition to demographic patterns and workforce behaviour, the supply of dental hygienists is affected by exogenous variables such as immigration and regulations for licensure of new entrants. The quantity of accredited training institutions and the consequent numbers of new graduates also feed into the supply.

The level of salaries can be an important variable affecting the supply of labour, specifically in a field with a component of the labour force working part-time (30% worked less

than 30 hours per week in 1987). The economic climate is significant considering that family income levels correlate with the number of hours worked. The ability to substitute decreased income for time off is seriously compromised in an economic downturn.

Market for Dental Hygiene Services

Markets for dental personnel are "private" markets to the extent that salaries are the outcome of the operation of free markets. In theory wage levels are the outcome of the supply and demand, and serves to clear the market from shortages. However, pricing for dental services does not occur through the invisible hand of free markets – it is regulated provincially.

In a service industry where personnel costs comprise a significant share of total costs, the prices set for these services are key factors in the salaries of dental personnel. Pricing of dental services is consistent with the high salaries traditionally associated with highly skilled male professionals. Provincial regulation provides a fee structure which is based on the service so there is flexibility in the mix of personnel in the provision of care.

Dental hygienists enjoy relatively good working conditions when compared to other female-dominated professions outside of the public sector. Female dominated professions within the health care sector have attained wages and working conditions through collective bargaining in a more institutional setting. Dental hygienists primarily work in small private practices. Implicit in the pricing of dental hygiene services is a rate of return for the employer (dentist), which compensates for the risks associated with ownership of the business. The lack of public funding in dental care introduces a risk factor which is not present in the practices of publicly funded health care professionals.

Demand for Dental Hygiene Services

Dental hygiene service levels are determined by client-driven (patient) demand and also by employer-driven (dentist) demand. Client-driven demand includes the epidemiological factors in the population determining the true "need" for preventive dental services. This includes the success of educational preventive oriented programs and other environmental factors which impact on disease patterns. Demographics of the population is a key factor here.

Client-driven demand correlates strongly with economics, through the relationship of levels of discretionary income and the purchase of preventive dental services. The quality and quantity of employer-sponsored third party dental insurance will likely fluctuate with the economy. The erosion of employee benefits often correlates with periods of poor

economic performance. In addition, the economic diversity of Canada introduces significant regional economic markets which influence the demand for preventive dental services and introduce regional labour markets.

Dental hygienists perform a range of prevention oriented services. Changes in the delivery of dental services due to technological shifts or to traditions of practice impact the nature of and therefore the demand for the quantity of dental hygiene services by both the client and the employer-dentist. The demand for dental hygienists can be vulnerable to public policy through changes in the regulatory environment. There is a potential for external pressures from national and provincial dental organizations and licensing bodies through manipulation of regulation which affects the supply and demand for dental hygienists.

With so many exogenous factors determining the conditions under which dental hygienists practice, it proves difficult to answer the question "is there a shortage or surplus of dental hygienists?". An economic approach might lead to the conclusion that there is a potential future surplus of dental hygienists given a pessimistic projection for an economic recovery. A demographic needs based approach might lead to the conclusion that there is a potential future shortage of dental hygienists to service the needs of an aging population. An epidemiological needs approach may lead to the conclusion that there is a potential surplus due to declining disease pattern. Due to the number of variables, the importance of which approach is used in the analysis and the complexity of factors involved in the dental hygiene labour markets, it remains difficult to design a comprehensive human resource planning model which could be used to make accurate predictions.

The focus for CDHA continues to be access to care. The issue of human resource planning needs to be viewed through the perspective of access to care. Are the needs of the population for preventive dental services being met? What role will the profession of Dental Hygiene play in meeting these changing needs?

Footnotes

1. *Dental Hygienists in Canada 1987: Descriptive Profile and Labour Force Behaviour.* P.M. Johnson

D. Bascombe completed her Masters in Public Administration in 1991. She is an honorary member & former employee of CDHA. Dianne is currently the Associate Director of the Canadian Child Care Federation.



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A Selection Presented by Canadian Dental Hygienists at the 12th International Symposium on Dental Hygiene

Oral Malodour: Diagnosis and Treatment

A. Bosy, RDH, BSc, MEd, Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto, Ontario, M5G 1G6.

The focus of my research is the detection, analysis and treatment of oral malodour. Assessment of oral malodour includes the use of an industrial sulphide monitor and organoleptic measurements to assess the chief complaint.

Concomitant information on the oral condition is obtained through determining pH levels, salivary flow, detection of anaerobic micro-organisms, gingival and plaque indices. A psychosocial profile is obtained through questionnaires.

Oral malodour affects approximately fifty per cent of the population and is of great concern to those affected. The outcome of my research will help improve treatment of this disorder by providing a firm biological rationale.

Denture wearing habit and risk of denture stomatitis among elderly 60 and older

L. Alain, RDH, MSc, J.M. Brodeur, DMD, PhD, and C. Lapointe, MSc, Ecole de medecine dentaire, Universite Laval, Quebec.

Much of the existing knowledge about the epidemiology of denture stomatitis in elderly is based on studies of institutionalized subjects, and few searchers have evaluated continuous wearing of complete upper denture as potential risk factor of denture stomatitis.

The first purpose of this investigation was to determine the prevalence of denture stomatitis associated with full maxillary denture wearing, in a representative sample of elderly Quebecers independently living. The second purpose was to study the association between this pathologic condition and the full maxillary denture wearing habit, which constitute one of the potential causes of denture stomatitis.

Data were obtained in 1988, in a cross-sectional survey, by a questionnaire on oral habits and socio-demographic factors, and by a clinical examination of 357 elderly aged 60 and older.

Denture stomatitis were found in 48.7 per cent of complete denture wearers. The relative risk of being affected by the denture stomatitis among continuous denture wearers of upper denture is equivalent to 3.32.

This study confirms the research hypothesis supporting a positive significant relationship between denture continuous wearing habit and denture stomatitis.

Economic study of a two chair hygiene system

J. Williams, RDH, Box 1176, Fonthill, Ontario.

Dental hygiene services play a major role in the economics of a dental practice. To survive the financial challenges of the '90s, an office goal should be to improve and increase hygiene productivity. The purpose of this study is to determine the economic value of a "Two Chair Hygiene System" in a dental office.

The study was conducted in two separate, three-month periods. In one three-month period, data were collected for one hygienist working one chair. This was called the "One Chair Hygiene System". During the second three-month period, data were collected for one hygienist working two chair with an assistant, called the "Two Chair Hygiene System".

The results demonstrated that a "Two Chair Hygiene System" is of economic benefit to a dental practice. The findings showed an increase in the hourly hygiene production, the hourly hygiene salary and in the number of patients treated per hour. There was a decrease in the length of hygienist time required per appointment. The total office salary cost remained unchanged.

The results of the study suggest a "Two Chair Hygiene System" is an efficient method of delivering hygiene services.

The development of a preventive dental health program in the Baltic States

K. Mierins, RDH, BSc, Regional Municipality of Peel, 199 County Court Blvd., Brampton, Ontario, L6W 4P3, and P. Apse, DDS, Dip Pros, MSc, University of Toronto, 124 Edward Street, Toronto, Ontario, M5G 1G6.

Dental disease in the Baltic States of Latvia, Lithuania and Estonia has reached epidemic proportions, due to the lack of preventive orientation of the dental health care system under 51 years of communist rule.

Economic collapse limits the availability of materials and methods to treat existing dental disease. The most feasible economic and biological approach to this problem is to focus on preventive dental care measures. For this reason a group of dental professionals from Canada have initiated the first dental assisting and hygiene program in the Baltic States.

An extensive analysis of existing dental assistant and hygiene programs in Canada and the USA has been undertaken. A customized program is being developed from the American model to best serve the emerging dental health system in the Baltics. The discussion will include the unique needs of these nations, and the anticipated implementation problems.

Key elements of the Ontario Regulated Health Professions Act

L.D. Strevens, RDH, BScD, Executive Assistant, The Royal College of Dental Surgeons of Ontario, 6 Crescent Road, Fifth Floor, Toronto, Ontario. M4W 1T1.

The proposed *Regulated Health Professions Act* is a complex piece of legislation which will regulate twenty-four health professions and will be divided into three main sections: the act itself; a procedural code; and 24 individual profession-specific acts.

The *Regulated Health Professions Act* addresses three main policy reforms: increased public protection; increased public accountability; and enhanced public policy. This policy reform will be accomplished through:

- increasing the powers of the Minister of Health in dealing with self-regulated professions;
- opening Council meetings and discipline hearings to the public;
- improving access to information collected by the Colleges;
- expanding the publishing of discipline decisions and reasons; and
- developing programs to assure the quality of health care.

The *Regulated Health Professions Act's* general and procedural sections will be the same for all professions. This means that all health professions will be governed by the same rules, and the public will have the same rights and remedies regardless of the professional group. These sections include such areas as duties of the Minister, appeal processes, general structure of the Colleges, and requirements for statutory committees. The individual profession-specific acts will be different for each profession.

Teaching of patient-centred dental hygiene care: restructuring information to fit the patient's needs

J.F.L. Pimlott, MSc, Division of Dental Hygiene, and G.C. Hess, PhD, Department of Educational Psychology, University of Alberta, Edmonton, Alberta, T6G 2N8

Many dental hygiene practitioners experience frustrations in gaining patient compliance with preventive therapies. Too often patients fail to comply with the behaviours which will help prevent disease, largely because they do not see the importance of the information for them. Therefore, in order to increase patient compliance, dental hygienists need to restructure their information according to the needs of the individual patients. It is recognized by many behavioural scientists that patient compliance is enhanced by the use of a patient-centred approach to communication rather than the more traditional, problem-centred methods.

The challenge in dental hygiene educational programs is to teach dental hygiene students communication skills which enhance their abilities to structure patient education using the patient-centred approach. The purpose of this study was to assess the development of communication skills in students

in a clinically integrated communication program.

Eighty dental hygiene students at the University of Alberta were given a short inventory which included multiple-choice and open-ended questions designed to measure listening and attending skills. Their skills were assessed in a pre- and post-test after completing the communication program. The structure of the pre- and post-test questions was designed to measure generic communication skills and was not related to the formula or prescription of any single communication author. Descriptive data including age, sex, educational and language background, and self-ratings were also gathered in both tests.

The pre-test results showed that although students rated themselves as good communicators, they actually lacked basic communication skills. Results of the post-test increased significantly suggesting that they developed the skills of effective communication.

This paper will report the research findings as well as a discussion of the implementation of the program.

Back to the future: Appropriating our traditions

L. McKeon Mickelson, RDH, HBA, Philosophy/Occupational Ethics, 194 Varsity Row, Thunder Bay, Ontario. P7B 5P1.

Dental hygiene, like other areas of society, has become technologized, specialized and fragmented. Generally, dental hygiene has been defined by dentistry. We practise mainly in private practice dental offices, as clinical technicians, focused on treatment, in the sulcus.

In order to rediscover the true comprehensive nature of dental hygiene, we need to look back to our origins. We can appropriate our traditions of teaching oral health. Our unifying principles are prevention of disease and promotion of health. We attempt to empower the public to maintain a clean, healthy, functional, oral environment.

In Ontario, The College of Dental Hygienists will regulate the members of their profession under the *Regulated Health Professions Act*. The principles of prevention and promotion can be applied to self governance. Hygienists will be responsible and accountable for their professional activities. The dental hygiene Code of Ethics can be a guide for decisions involving colleagues, employers, and co-workers. Preventive initiatives which support registrants in continuous improvements can be developed. An environment can be promoted which empowers registrants to emphasize excellence and to understand and prepare for societal changes.

Hygienist involvement in the general dentistry concept

K.F. MacDonald, RDH, BS, MEd, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia. B3H 3J5.

In 1984, Dalhousie University implemented a general dentistry program to prepare dental and dental hygiene students for comprehensive patient care delivery in opti-

mum private practice.

Dental and dental hygiene students are encouraged to collaborate with one another and are assigned adjacent clinic cubicles for ease of communication, and for patient referrals. A joint appointment book is used to emphasize the office concept of booking patients.

After seven years experience with the program, the advantages have been shown to be smooth collaboration between both groups, in many instances, often leading to a continuance of the working partnership following graduation. Closer monitoring of comprehensive patient care is also seen as an improvement.

Some deficiencies in the program have been noted as well, such as the need for dental hygiene students to see more patients than those referred by the dental students. Instructors also feel that earlier linkage of the two groups would result in improved professional and social benefits.



CDHA Guide to Submission of Manuscripts

Manuscript:

All manuscripts submitted for consideration for publication should be typed on standard (8½ x 11) paper, double-spaced, with a margin allowance of at least one inch. Three copies should be sent to the Scientific Editor, and the manuscript must not be submitted to another publication while under review. A title page should be included stating the title of the paper and the author's full name, degree, and position.

Illustrations:

Illustrations must be clearly defined and suitable for reproduction on a reduced scale. Each picture should include a legend and should be marked in numerical order. Graphs and drawings should be drawn in Indian ink on white paper. Photographs must be glossy prints.

Length:

The preferred length of a text is 8-10 typed pages or 2,000 words including references. Space for illustrations should be considered in the length.

Subheadings:

It is suggested that subheadings be used within the paper for the reader's benefit.

References:

References should be lined up numerically. References to journal articles should be made as follows: last name of author followed by initials; title of article with only the initial letter of first word capitalized; full journal name followed by volume, number, first and last pages of article to which you refer, and year.

Example:

Bell, G. Role of the dental hygienist in restorative dentistry. Dental Health 40: 139-141, 1973.

References to books should be made as follows: last name of author followed by initials, title of book with initial letters of all words, except connecting words, capitalized; publisher, city of publication, year of publication; page or pages to which you refer.

Example:

Guthrie, H.A. Introductory Nutrition. The G.V. Mosby Co., St. Louis, 1975:153-156.

Notice of Acceptance:

Manuscripts will be acknowledged upon receipt. Authors of accepted papers will be notified before publication, and it would be greatly appreciated if at that time an accompanying IBM or Macintosh 3½" disk could be provided, indicating the software used. Rejected manuscripts will be returned.

SELF ASSESSMENT TEST

CLINICAL DENTAL HYGIENE

1. Fluoride is an effective oral antibacterial agent because it causes:
 - a) death to all bacteria
 - b) conversion of bacteria to a lower form of life
 - c) reduction in bacterial acid-producing potential
 - d) elevation of the plaque pH
2. The pellicle if removed by prophylaxis begins to reform:
 - a) in a few seconds
 - b) in a few minutes
 - c) in 2 hours
 - d) in 12 hours
3. Which method is the best method for verifying that sterilization has occurred:
 - a) using spore strips daily and colour-change tape on each load
 - b) using indicator strips in each load, colour-change tape on each package
 - c) using indicator strips in each load and spore strips weekly
 - d) using colour change tape on each package and spore strips weekly
 - e) using indicator strips in each load and spore strips monthly
4. You have just punctured your finger with an instrument. After bleeding, cleaning and disinfecting the wound, you should:
 - a) do nothing as you have received the HBV vaccine and the patient's history says he/she is negative
 - b) arrange to receive hepatitis B immune globulin (HB Ig) after work
 - c) request that the patient have a blood test for HBV surface antigen, HBsAg.
 - d) have your blood tested for antibodies to HBsAg (anti-HBs) if it has not been done within the last 24 months to determine your level of antibodies
 - e) arrange to receive a booster shot, within 7 days, of the HBV vaccine
5. Juvenile periodontitis, an atypical disease of the periodontium involving the cementum, periodontal ligament, alveolar bone, can be detected directly by:
 - a) gingival inflammation, pain
 - b) gingival colour change and no stippling of gingiva
 - c) blunting of papilla
 - d) deep pockets upon probing
 - e) all of the above
6. Gingival recession tends to occur in:
 - 1) areas where the roots are prominent
 - 2) areas where the gingival tissues are thin
 - 3) the presence of frenum attachments that impinge on the gingival margins
 - 4) areas exposed to vigorous toothbrushing methods
 - a) 1,2,3, and 4
 - b) 3 and 4
 - c) 1 and 2
 - d) 2 and 3
 - e) 4 only
7. Use of the probe is not recommended as a routine procedure for:
 - a) calculus detection
 - b) measurement of lesions
 - c) measurement of gingival attachment on natural teeth
 - d) probing around abutments of implants
8. A significant number of patients do not know the names of their medications. To obtain the name and dosage of a patient's current medication(s) you could find out the information from the:
 - A. family physician
 - B. hospital they have visited
 - C. pharmacy where the prescription was filled
 - D. prescription containers
 - E. product identification section (colour photographs of medication in actual size) of a PDR (Physicians Desk Reference) where the patient can identify his medication(s) by the picture.
 - a) A and B
 - b) A and C
 - c) A,C,D, and E
 - d) A,B,C, and D
 - e) B,C,D, and E
9. Having the exact name and dosage of a medication gives valuable information such as the:
 - A. specific disease being treated
 - B. oral manifestations of the medication, such as dry mouth, that occurs with antihistamines
 - C. potential drug interactions in the dental therapy, such as those that occur when tetracycline and penicillin are used together
 - D. potential management problems of people on mood elevating drugs and dental therapy stress
 - a) A only
 - b) A and B
 - c) A,B, and C
 - d) A, B, C, and D
10. Precautions to take while using ultrasonic equipment:
 - a) use of antimicrobial solutions such as Peridex or chlorhexidine rinse to reduce the oral microbial population
 - b) operator should wear gloves, masks and protective eyewear
 - c) due to heat being generated – causing pulpal damage – avoid using on children
 - d) all of the above

This Self-Assessment Test was prepared by the Faculty of the Dental Hygiene Department of John Abbott College, Ste. Anne de Bellevue, Quebec.

References

Cottone, Terezhalmay, & Molinari. **Practical Infection Control in Dentistry.** Samson, G & Trudeau F. **Infection Control: A Philosophy in Practice.** 1992. Steele, Pauline F. **Review of Dental Hygiene.** 3rd edition. Lea & Febiger, 1986.

1. c) 2. a) 3. c) 4. d) 5. d) 6. a) 7. d) 8. c) 9. d) 10. d)

Answers

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The Canadian Dental Hygienists Association (CDHA) 1993 Research Conference is directed at new graduates, practitioners and dental hygiene researchers. O'Neill (1984) states that an information gap exists between what is known by researchers, by clinicians and the public¹. That gap often takes a while to close leaving the clinician and the public "behind the times". Professional conferences, such as the CDHA Research Conference offer a direct means of communication between the seemingly separate worlds of the

researcher and the clinician. Basic and applied research derive their substance from the everyday activities of the clinician. The practitioner reaps the benefits of the researcher's findings. The two worlds do meld. In a way, everyday the clinician assumes the role of the researcher in that the clinician, along with the client, chooses a treatment plan that they believe will be effective in assisting the client to a healthy oral state. The clinician and client theorize about it, test or implement it, and evaluate it, concluding with recommendations for future

care (to the client and others).

The following questions and brief discussions provide evidence of the inter-relationship between the research world and clinician's world. Are you a practitioner of selective polishing for removal of extrinsic stain and plaque deposit on the site specific tooth surface or do you routinely complete a full mouth polish for every client? If you are an advocate of the former, but do not practice the procedure, opting for full mouth polishing then your reasons probably fall into these sample responses: client's preference for full mouth polish because they are used to it, how can you rationalize billing for selective polish, your employer prefers full mouth polishing to selective because it has always been done that way. Your response to these barriers can be drawn from the scientific field. Every procedure that a dental hygienist plans must have a sound scientific rationale. As a responsible health care professional, a dental hygienist would avoid the generic provision of "scale, polish and fluoride" routinely on all patients. The dental hygiene profession promotes individual care, meaning individual client assessment and treatment planning. There is much literature or research on whether to selectively polish or do a full mouth polish, whether to select an air-powder abrasive system or a rubber cup device, or whether to polish at all. Do you know what the literature supports? Do you know that there is a need for further research in the area of indications and contra-indications for the use of the air-powdered abrasive system compared to the traditional rubber cup procedure? Do you give your clients the opportunity to make an informed choice or decision regarding their professional and home oral health care? Informed choice means that the client too is provided with up-to-date information. A research conference aimed at the practitioner provides timely information that the dental hygienist can apply in practice.

Common clinical periodontal measurements for detecting gingival inflammation are gingival color, bleeding on probing, pocket depth and the amount, and more specifically, the rate of gingival cervicular fluid. These are all noted signs of inflammation due to the physiological reactions of the blood vessels and surrounding tissues to pathogenic agents. What oral health professionals often do not include as a measurement is gingival temperature. When was the last time you considered the temperature of the gingiva as a determinant of gingival health, or have you? There is a relationship between gingival tissue temperatures and various indicators of gingival inflammation³. Temperature increase is correlated with increase in gingival cervicular fluid flow, however the relationship between pocket depth and temperature is not clear. The thought with respect to the latter point is that as you measure the depth of the pocket, you are also closer to the body's core temperature. Thus, is this a true reading of the temperature of the pocket? Would it not be simpler to measure the surface temperature of the gingiva than perform the more laborious assessments of gingival cervicular fluid flow rate or color. This is an area under current study. It has direct relevance to the assessment phase of the practice of the

dental hygiene.

What is your response to client inquiries about the effectiveness of water fluoridation in preventing dental caries? Thirty years ago, you could confidently state that people experiencing lifelong exposure to fluoridation benefitted by a 60% reduction in dental caries in comparison to persons residing in non-fluoridated areas. Horowitz (1991) reports that more recent U.S.A. data indicates an 18% difference between the two⁴. Has fluoridation lost its effectiveness? Researchers propose that North Americans are exhibiting a halo effect, a response to the intentional and unintentional increased ingestion of fluoride via dental products and food preparation. As Ripa (1991) states there is direct and circumstantial evidence to indicate that fluoride from multiple sources is responsible for the reduction in dental caries⁵. At approximately the same time as fluoridation was being introduced, fluoride was being offered as an ingredient in many toothpastes. Topical fluoride does have anti-cariogenic qualities. Perhaps the percent reduction in dental caries attributed to water fluoridation is somewhat misleading. Another consideration regarding the use of topical fluorides in conjunction with systemic fluorides is the concern of dental fluorosis⁶. What degree of dental fluorosis is acceptable to the public? Is this different from what public health officials would consider a public health concern?

These discussions have given examples of why the dental hygiene practitioner would want to keep abreast of research relevant to dental hygiene care. This is why the CDHA Research Conference is for you!

Laura Lee MacDonald

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– Part seven of a series –

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Essentials of Oral Histology and Embryology – A Clinical Approach

James K. Avery/edited by Pauline F. Steele. First edition, Mosby Year Book, 11830 Westline Industrial Drive, St. Louis, MO 63146. Copyright 1992, Illustrated, colour, 224 pages, \$37.25.

Reviewed by Mary E. Fuger, RDH, BSc, Instructor of Dental Hygiene, John Abbott College, Ste Anne de Bellevue, Quebec.

This new textbook is primarily directed toward dental hygiene students. However, it would make a good contribution to the reference library of practising dental hygienists

The organization of the book is carefully constructed to provide the embryological and histological elements of the oral cavity and their relationship to clinical practice of dental hygiene. The presentation of the material is attractive and easy to follow. An understanding of embryology and histology are relevant to the clinical manifestations of abnormal structures and disease. Therefore, the author includes a description of a pathological condition relating to the structures discussed in each chapter. The pathological aspect also serves as a foundation for the continuing studies of pathology and periodontology.

Early chapters (1 and 2) present an important review of the basic tissues of the body. These chapters are vital for a true understanding of the development and micro-anatomy of the oral cavity.

The remaining chapters included an overview of the material to be covered. "Clinical Comments, Self-evaluation Questions" and "Suggested Reading" complete each chapter.

The format of the textbook is a delightful deviation from most histology textbooks and one which will be appreciated by readers. Perhaps the most attractive aspect of the book is the abundance of colour plates appearing throughout the text. The introduction of colour will surely contribute to an easier recognition of microstructures observed in stained sections.

A glossary of terms is included in the final pages. These terms may be applied to other areas of dentistry, as well as to the study of histology.

Dr. Avery's approach will certainly be appreciated by dental hygiene students, he has not only accurately described histology and embryology but has shown that other areas in the field of dentistry are related to each other. My students reviewed this textbook last semester and recommend it very highly. I intend to order it as a required textbook for my next course in oral histology.

Manual of Dental Therapeutics

Raymond F. Zambito and James J. Sciubba. First edition, The Mosby Year Book, 11830 Westline Industrial Drive, St. Louis, MO 63146. Copyright 1991, 3 illustrations, indexed, 311 pages.

Reviewed by Amilia Peskir, hdl, BSc, Instructor, Department of Dental Hygiene, John Abbott College, Ste Anne de Bellevue, Quebec.

This manual was patterned after the *Manual of Medical Therapeutics*, to help bridge the 'gap' between medical and dental reference texts. The goal seems to have been met quite successfully. The manual contains such information that would be of benefit for everyone in the field of dentistry, as well as those in medicine.

The Manual of Dental Therapeutics is written concisely and is read easily, containing topics that are current. The editors of this work have had years of experience in the dental field both as clinicians as a educators. They saw the need to fuse the diagnostic and therapeutic aspects of care against a background of applied basic science, including anatomy, microbiology, and pharmacology.

Each of the fifteen chapters in the manual was written by an expert in that particular subject. The subjects cover a wide range of dental and orofacial problems. These include infections, trauma, various types of lesions, and the medically compromised patient, plus several more topics. The chapters are well referenced with current literature.

The format of each chapter is the same, with presentation of symptoms followed by differential diagnosis and the options for therapy with consequent outcomes. This style of manual would be a great asset to anyone's library. It has practical use for the practising professional and the enthusiastic student.

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IMPORTANT NOTICE TO DENTAL HYGIENISTS OUTSIDE B.C.

The College of Dental Surgeons of B.C. has developed a Waiver Program (exemption from all Board Examinations) for dental hygienists applying for Registration and Licensure for the period January 1, 1992 to December 31, 1994. Most dental hygienists will qualify if they are:

- 1) graduates of a dental program accredited by either the Canadian Dental Association or the American Dental Association;
- 2) not considered to be an unsuccessful candidate in their most recent Board Examination attempt in any province or state;
- 3) can provide a letter of good standing from the licensing jurisdiction in which they are currently, or last licensed and/or are graduates within the most previous year.

The College will also review each applicant's practising history prior to making a determination as to eligibility.

For more information, and to obtain application packages, please contact the Registrar, Dr. B. Rocky, 500-1765 West 8th Avenue, Vancouver, BC V6J 5C6: (604) 736-3621 or fax: (604) 734-9448.

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Respond to Dr. Deborah Hallinan, #102-9123 Mary Street, Chilliwack, B.C., V2P 4H7. Phone collect (604) 792-3324 or (604) 795-3077

AUSTRALIA WANTS YOU



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Call 714-573-9247
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Classified Ad Rates 1993

Fifty (50) words or less, per ad, minimum \$25.00 plus 7% GST (total: \$26.75). Each additional word 50¢ plus 7% GST (total: 54¢). Payment must accompany order or ad will not be placed. Closing date for receipt of copy is the 1st day, two months previous to publication date – November 1 for January/February issue, January 1 for March/April issue, March 1 for May/June issue, May 1 for July/August issue, July 1 for September/October issue, and September 1 for November/December issue.

Display classified rates based on 1/2 page (\$400.00 plus 7% GST Total: \$428.00) and 1/4 page (\$200.00 plus 7% GST, total: \$214.00). Non cancellable after closing date. No agency commissions on classified advertising. Ads will not be taken by telephone.

Direct advertising copy, with cheque to:

Canadian Dental Hygienists Association
1018 Merivale Road, Suite 201
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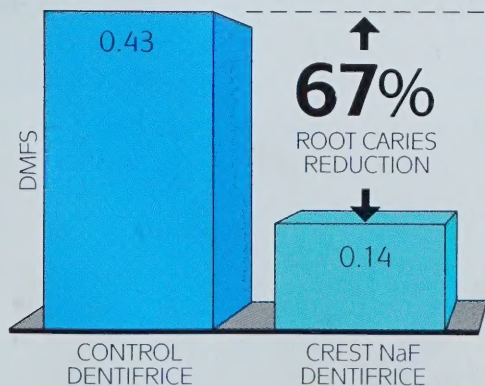
Note: GST does not apply to out-of-Canada advertisers of classified ads.

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CREST IS THE ONLY DENTIFRICE CLINICALLY PROVEN TO HELP PREVENT FRUSTRATING ROOT CARIES



We don't have to tell you about the difficulties and frustration in treating certain root caries*, but we can give you some clinical information on prevention.

Crest with sodium fluoride has now been shown to reduce the incidence of root caries by 67% in a controlled clinical study involving 810 adults over 54 years of age.¹ And, considering a National Institute of Dental Research oral health survey reported 25% of patients over

age 40 have at least one carious or filled root surface lesion,² that's important to know.

So give your patients the clinically proven advantage against root caries that only Crest has been shown to offer. Recommend with confidence.

References: 1. Jensen ME, Kahout F. The effect of a fluoridated dentifrice on root and coronal caries in an older adult population JADA 1988; 117:829-832. 2. 1985 NIDR adult oral survey Oral Health of United States Adults (1985-1986)



"Crest contains sodium fluoride which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care." CANADIAN DENTAL ASSOCIATION

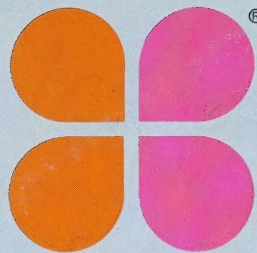
Crest

Clinically recommended for root caries

PAAB
CCPP

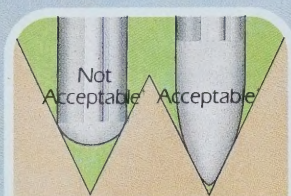
*On exposed root surfaces

Butler



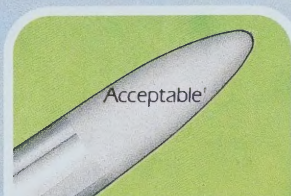
GIVE YOUR PATIENTS THE BUTLER ADVANTAGE

Only Butler toothbrushes provide these 5 features



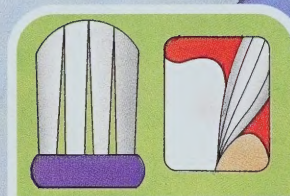
Rounded and Tapered Bristles

Rounded to be gentle, not traumatize gums. Tapered to reach deep into the sulcus and interproximally. Bristle tips are sized down from .004 to .002.



Satinized Bristles

Butler's texturized bristles pick up plaque and carry it away, unlike some smooth, polished bristles that only slide through plaque.



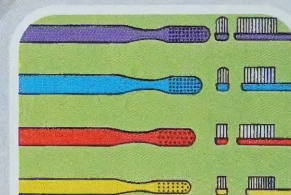
Dome-Shaped Trim

Exclusive shape prevents bristles from bunching up, allowing a flexible tip to penetrate sulcular areas. The design positions bristles to reach into the sulcus regardless of angle.



Wide Straight Handle

The wide, lever grip straight handle provides better grip for more precise control of brush head making it easy to brush the buccal, lingual, posteriors as well as anteriors. And it won't twist in your hand.



The Right Size & Style

Large or small arches, adults, children, or youths. Butler has the most complete range of brushes available, so you can provide exactly the right brush for every patients' needs.

DENTIST DESIGNED CLINICALLY PROVEN

These exclusive features of the Butler toothbrush provide the basis for its superb clinical performance. Butler toothbrushes are proven in independent studies* to reduce gingivitis and are the overwhelming choice of Periodontists.

Next time you recommend, dispense or use a toothbrush, give your patients and yourself The Butler Advantage.

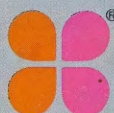
*Data on file.
†According to Butler Specifications



5173



Butler



John O. Butler Company

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